APR 19 1948

AMERICAN GAS JOURNAL

90th YEAR APRIL 1948 VOL. 168 NO.

PER

when equipped with

ROCKWELL-EMCO

GAS *appliance* REGULATORS

Leading manufacturers who buy in volume have proved conclusively that appliances perform best when equipped with new Rockwell-Emco pressure regulators. For these superior controls supply gas to burners and pilot lights at a *constant, never-varying* pressure. With maintained heat input assured, burners can be factory set for the highest efficiency and the most economical operation. *Gas pilots stay lighted!*

These new Rockwell-Emco regulators are unquestionably the finest performing low pressure controls ever made. And this performance has been engineered to endure throughout the normal life span of the appliance.

Don't overlook the other advantages in this design. Rockwell-Emco regulators are lightweight and compact. Their attractive lines and neutral gray finish naturally harmonize with modern appliance styling.

Want to see and try Rockwell-Emco regulators on your own appliances? Just write, wire or phone for samples, literature and price list.

We can make immediate deliveries

FOR NATURAL, MANUFACTURED OR LP-GAS

Here's how

TO ADJUST APPLIANCE BURNERS *WITHOUT* USING A DRY TEST METER AND STOP WATCH

Quickly, Accurately

Just outfit each of your appliance servicemen with a handy Emco Flow Indicating meter. Reads instantaneously and directly in cfh and is a big time saver. Made in 3 sizes with carrying cases. Economically priced.

PITTSBURGH EQUITABLE METER DIVISION

Rockwell Manufacturing Company
Pittsburgh 8, Pa.

Atlanta Boston Chicago Houston Kansas City Los Angeles
New York Pittsburgh San Francisco Seattle Tulsa

©CIB 131338

Still Another CRYSTOLON* Brick Installation

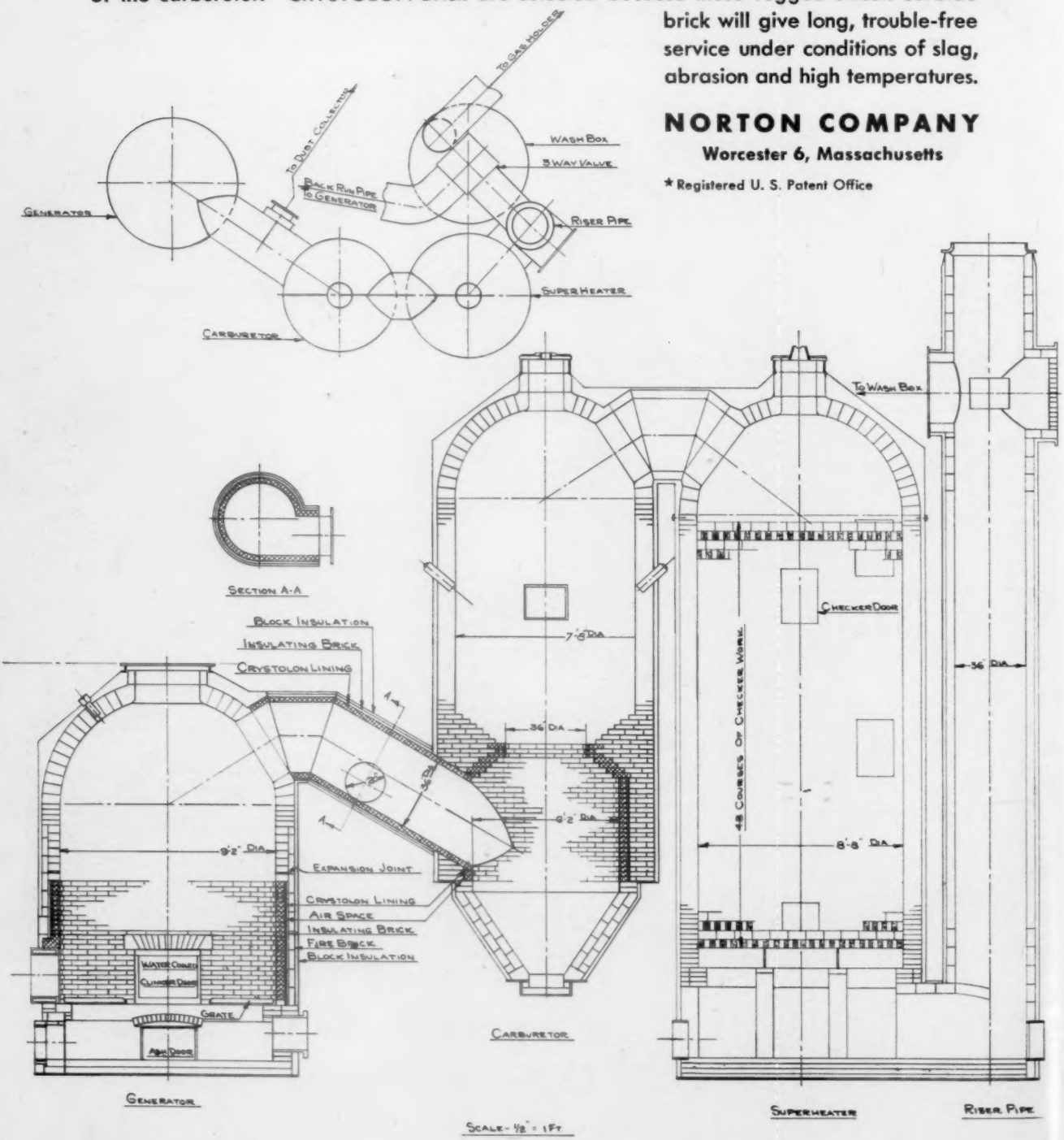
This Time: In a Semet-Solvay Reverse Flow Set

Location: Pawtucket, R. I. plant, Blackstone Valley Gas & Electric Company
Masonry Contractor: W. J. Gaskill Co., N.Y.C.

The drawing below shows the installation of CRYSTOLON Brick in a reverse flow, open carburetor type of water gas set. Twenty-four courses of CRYSTOLON Brick were laid in the generator, extending up five feet from the grate line. A full lining of CRYSTOLON Brick were set in the generator offtake, and 28 courses of these brick were laid in the base of the carburetor. CRYSTOLON Brick are selected because these rugged silicon carbide brick will give long, trouble-free service under conditions of slag, abrasion and high temperatures.

NORTON COMPANY
Worcester 6, Massachusetts

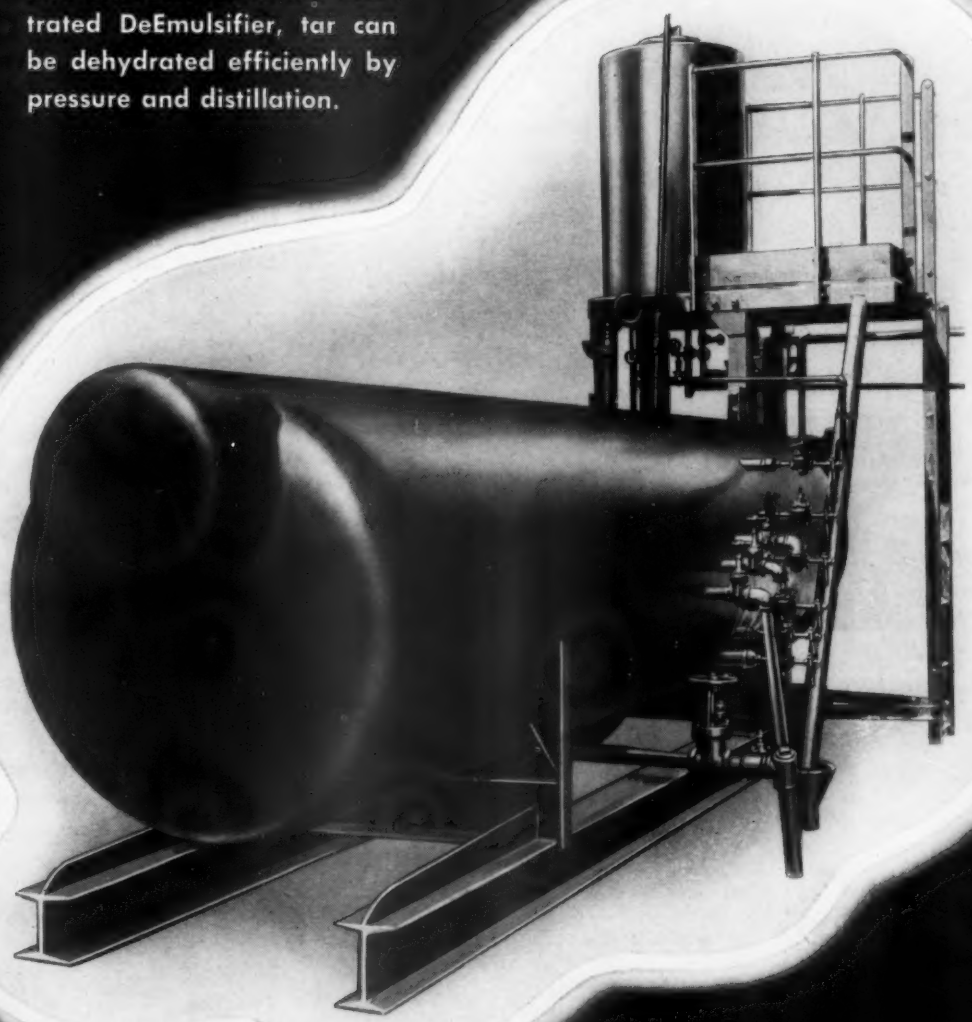
* Registered U. S. Patent Office



TAR

DEHYDRATING EQUIPMENT

By adding a vapor condenser and oil decanter to the illustrated DeEmulsifier, tar can be dehydrated efficiently by pressure and distillation.



SEMET-SOLVAY ENGINEERING DIVISION
40 RECTOR ST., NEW YORK 6, N.Y.

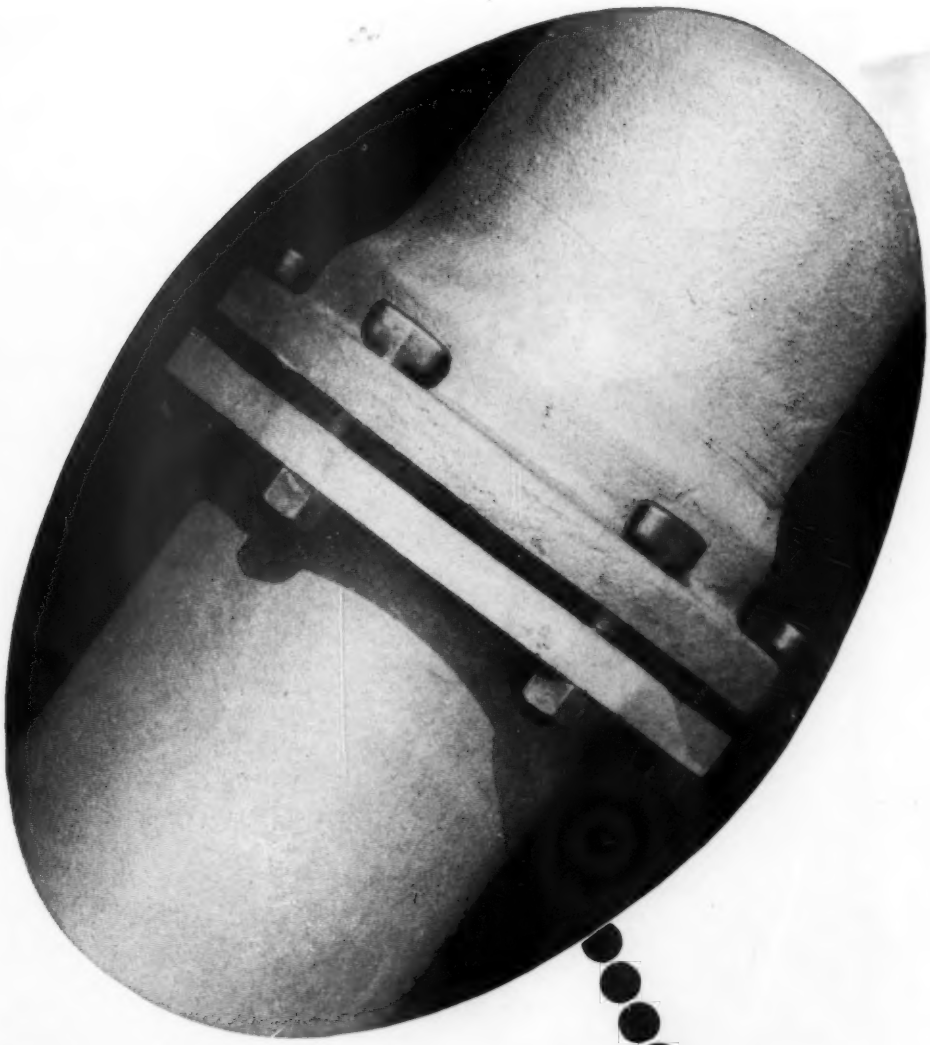
ALLIED CHEMICAL & DYE CORPORATION

AMERICAN GAS JOURNAL, April, 1948. Vol. 168, No. 4. Published monthly by American Gas Journal, Inc., at 34 North Crystal St., East Stroudsburg, Pa, Executive and Editorial offices at 53 Park Place, New York 7, N. Y. Entered as second class matter October 7, 1928, at the post office at East Stroudsburg, Pa., under the Act of March 3, 1879. Printed in U.S.A.

WET TRENCH. There's where mechanical joint cast iron pipe shines. Ask any construction engineer who has had to meet conditions shown in the photograph below. Time-saving under any conditions—simple and easy to install by untrained crews — bottle-tight and long-lived. No wonder it is fast becoming standard practise to install *standardized* mechanical joint cast iron pipe for all new construction of distribution mains. The long life and low annual maintenance cost of cast iron pipe are unquestioned. The efficiency of the mechanical joint has been proved by performance records over the past 20 years under all operating conditions.

Collect and sell your scrap NOW

In spite of the flooded trench, mechanical joint cast iron pipe enabled the superintendent of this transmission line to go right ahead with the job, saving many days and dollars. The pipe is jointed and ready to be lowered into the trench.



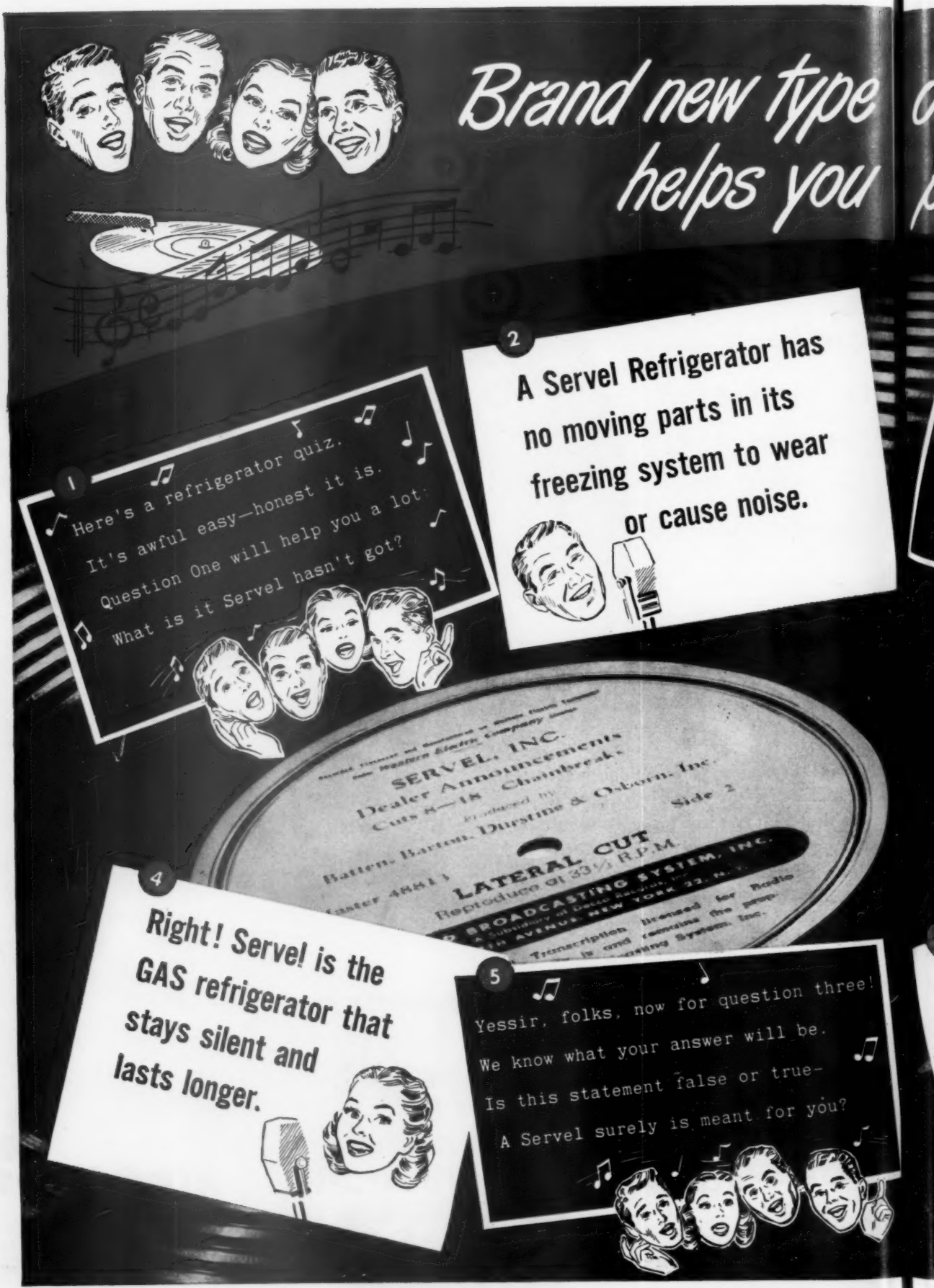
Complete interchangeability of fittings and accessories—glands, gaskets and bolts—furnished by all manufacturers of standardized mechanical joint cast iron pipe, is a simplification appreciated by distribution engineers and their crews. No longer is it necessary to stock parts for each make of pipe purchased, nor to risk delays on jobs through delivery of wrong parts. Cast Iron Pipe Research Assn., Thos. F. Wolfe, Research Engr., Peoples Gas Bldg., Chicago 3, Ill.

STANDARDIZE ON . . .

CAST IRON

Standardized **MECHANICAL JOINT**

PIPE


Brand new type
helps you
1
Here's a refrigerator quiz.
It's awful easy—honest it is.
Question One will help you a lot.
What is it Servel hasn't got?
2
A Servel Refrigerator has no moving parts in its freezing system to wear or cause noise.
SERVEL, INC.
Dealer Announcements
Cuts 8—18 Chamberlin
Batten, Barton, Durstine & Osborn, Inc.
Side 2
LATERAL CUT
Reproduce at 33⅓ R.P.M.
BROADCASTING SYSTEM, INC.
4
Right! Servel is the GAS refrigerator that stays silent and lasts longer.
5
Yessir, folks, now for question three!
We know what your answer will be.
Is this statement false or true—
A Servel surely is meant for you?

# of SINGING COMMERCIAL promote GAS Refrigeration!

Not just another jingle... but a distinctly different combination of tuneful music and clever quiz-style lyrics

Singing radio commercials are a resounding success! Tests prove it. Musical "spots" can help sell anything from peanuts to limousines . . . and this includes Gas Refrigerators.

The new Servel commercial is as different as the Gas Refrigerator itself. One side of the 16-inch record has the 1-minute musical quiz. The other has a brisk 15-second station break. Both direct the listener to "See Servel at your gas company or dealer."

Put this record to work on your local radio station. Play it over a public address system in your showroom . . . or in front of your building (if local ordinances permit). For full information, see your Servel Advertising Portfolio . . . or write to . . .

Servel Inc.

EVANSVILLE 20, INDIANA

Diaphragms should be VULCAN!

VULCAN Diaphragm material affords many highly important advancements which contribute to accurate metering.

VULCAN Diaphragms are streamlined . . . precision-molded to size, free from bunchy, hand-made fluting. A scientifically improved "accordion" shape for tinned case meters results in a more uniform distribution of the flexing motion, extra volume and low differential. VULCANS operate with a gentle rolling action.

VULCAN Diaphragms have no oil to dry out, yet they remain soft and pliable even under extremes of temperature and after long years of service in all three types of gases. Specify VULCAN Diaphragms as engineers everywhere are doing.

VULCAN RUBBER PRODUCTS
VULCAN PROOFING CO.
"THE MARK OF QUALITY"

Vulcan
PROOFING COMPANY

FIRST AVENUE & 58th STREET • BROOKLYN 20, NEW YORK

Pacific Coast Representative: THE CALIFORNIA INK CO., INC. • *Canadian Representative:* SEARS LIMITED, TORONTO

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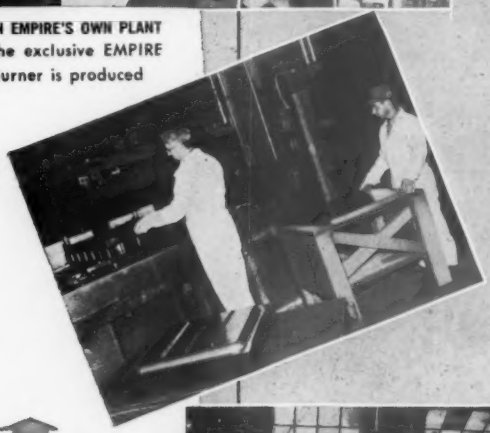
IN EMPIRE'S OWN PLANT the exclusive EMPIRE Burner is produced

BUILD GREATER

Customer Satisfaction on

EMPIRE



IN EMPIRE'S OWN PLANT huge presses form accurate steel stampings

IN EMPIRE'S OWN PLANT floor registers are built

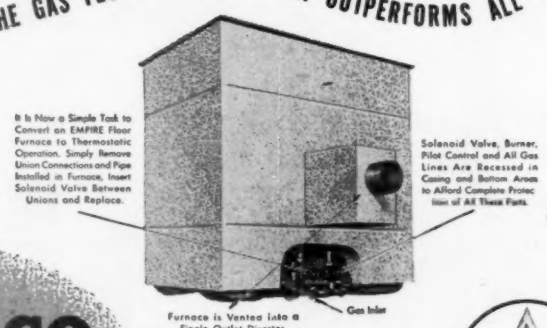
IN EMPIRE'S OWN PLANT Mass Production Assembly Lines keep costs low

UNIFIED PRODUCTION

Customers derive more pleasure, more home comfort, and more satisfaction in owning an EMPIRE Gas Heating Appliance. This is assured because of EMPIRE superior engineering and UNIFIED production.

Unified production means that 95% of all integral parts are produced in the EMPIRE plant... an achievement not found elsewhere in the Industry... and that a definite control over materials, methods, and fabrication assures uniformity of quality.

DEPEND ON EMPIRE—THE GAS FLOOR FURNACE THAT OUTPERFORMS ALL OTHERS


It Is Now a Simple Task to Convert an EMPIRE Floor Furnace to Thermostatic Operation. Simply Remove Union Connections and Pipe Installed in Furnace, Insert Solenoid Valve Between Unions and Replace.
Solenoid Valve, Burner, Pilot Control and All Gas Lines Are Recessed in Casing and Bottom Areas to Afford Complete Protection of All These Parts.
Furnace is Vented into a Single Outlet Diverter
Gas Inlet

EMPIRE STOVE CO.

BELLEVILLE, ILLINOIS

MANUFACTURERS OF GAS HEATING AND COOKING APPLIANCES

APRIL 1948

AMERICAN GAS JOURNAL

VOLUME 168 No. 4

The Heating of Industrial and Commercial Buildings

By
W. N. Blinks
General Gas Light Co.
Kalamazoo, Mich.

In presenting this subject before the Southern Gas Association on March 25th at Galveston, the author provided a well-planned method of approach to gain the confidence of the prospect. He considers type of building, ventilation, plant lay-out and working conditions and their bearing on temperature needs, location of units and temperature controls. Here are expressed many helpful suggestions for industrial and commercial gas salesmen — Ed.

THE STAMPEDE is on. Gas Heating is the number one demand of people all over this vast country for their homes, their stores, their recreation facilities, and their factories.

Fine equipment of widely varied types is available. You can select forced-circulation warm air, gravity warm air, steam, or hot water heating units. You can elect to deliver warm air, steam, or hot water thru individual units, ductwork, radiation, radiant panels or piping. Precision controls to police and regulate our heating systems are offered by a number of reputable manufacturers.

It used to be a real challenge to put over the advantages of gas as a heating fuel. We all worked hard to develop markets for gas heating. Now what is there to talk about? What fun is there left in the business?

We think that the most interesting part of the game remains with us, and hope that you will agree. So long as people continue to erect buildings, and so long as we use these structures, there will be heating jobs to be done.

The Adaptable Unit Heater

Any attempt to cover all types of heating systems for industrial and commercial applications would be beyond our ability and experience. We've worked with one type of gas heating equipment for a few years, and have found it so adaptable, so capable, and so popular that perhaps you will pardon our enthusiasm for the work that this, the unit heater, can do.

Just as the motor truck makers provide a wide range of types and sizes of these work-horse vehicles, so there are many types and capacities of the individual, let's say independent instead, gas unit heaters for the myriad tasks to be performed.

Analyzing a Specific Problem

Want to see what happens when we go into the matter of providing a gas heating system for an industrial plant? Let's say that we are with top management and that we are looking at the prints of the firm's proposed new factory. The architect has been called in for the meeting.

Right away we have to get nosy, but before long the men across the table understand the whys and wherefores of the barrage of questions, and they co-operate. Let's look at a few of these inquiries.

Are you going to insulate your roof? Up to fifty percent of the heat loss may be thru the roof on a one story building, and the great majority of modern plants are of single floor design. If you do insulate, we can reduce your initial outlay for equipment and installation, and thereafter, your operating costs.

Have you thought about using glass block instead of windows? Again, if you do, we can cut down on heater capacities and on fuel costs. Naturally, provide enough movable glass to permit summer ventilation.

Employee Comfort

Do your production and fabrication processes largely involve seated workers or those actively in motion? We'll have to figure on higher working temperatures for the bench operation section. And, if you use female labor, the thermostat settings will have to be around five degrees higher.

Are your operations of high precision with parts made held to close tolerances? If so, we'll need to plan on 72 to 75 degree heating, with accurate temperature control to help avoid sloppy work and rejections.

Ventilation

Will it be necessary for you to employ mechanical ventilation to remove dust, minute particles from grinding operations, or noxious or hazardous fumes or vapors? If so, about how many thousand cubic feet of air will be exhausted from the

building per minute? Remember, this is heated air, air that cost money to heat. We've got to know, because the equivalent quantity of outside, cold air is going to muscle its way back into your building. Either it is coming in around doors and windows, down atmospheric ventilator shafts, and down our heater vent stacks, or we're going to introduce it through specific openings supplied with air heaters capable of tempering this eager, hustling, chilly blast.

If you don't worry about draft conditions in the prime working areas near your windows, or can spot your operations so that your workers won't be near doors and windows, we can plan to equip the building with enough more heat output to handle the increased load, and install power exhaust blowers on the heater vent pipes to force the flue products out of the building in spite of the down draft pressure on these stacks. There will still be drafts.

Type of System

Should you agree with us that the better plan is to provide tempered make-up air, thus putting the building under positive pressure and eliminating drafts, various types of direct or indirect-fired industrial air heaters are available. It's going to take between one and two BTU units of heat energy to properly heat each cubic foot of this fresh, make-up air. Burner controls can be tied in with ventilating fan operating switches, and also be placed in the delivered air streams, thus promoting economical operation.

We can use unit heaters for this job, too, but they aren't designed to give the temperature rise that can be secured with industrial air heaters. Make-up air will have to be tempered to around 100 degree or higher else it will feel cool to adjacent workers.

Power and Fuel Needs

What will be your total horsepower of motor loads, and what will the inputs of process heating furnaces be? You see, we can give you some credit for Heat Gains, which will further reduce your equipment costs and lower the amount estimated that you will pay the gas company for space heating fuel. You may also have heated cleaning, pickling, and plating tanks which definitely liberate heat to the working space. It won't be hard to figure what these gains add up to. Perhaps they may prove that no delivery from space heaters will be needed during working hours. We still have to figure what you will need for non-working periods, so will plan to provide enough equipment for holding these at about fifty degrees.

Plant Operations

Do your operations include painting or finishing of products? We know that ventilation by mechanical means will be utilized here, and can provide for adequate heating capacity both for normal heat loss and for make-up air. We realize too that a working temperature of about eighty degrees is needed. Will approved paint booths, dip tanks, and volatile fluid storage be installed? We'd both better check on insurance inspection bureau, state, and local fire regulations covering such installations. It may be found necessary to plan on placing a gas-fired boiler outside this area, and delivering the heat thru radiation or steam or hot water unit heaters equipped with explosion proof fan motors and controls.

While the Underwriters have approved soundly designed gas unit heaters for general, garage, and airplane hangar service, there might be light, flammable vapors present, or paint particles having a flash point even below the surface temperatures of the heat exchangers on gas units.

Storage Rooms

How about your storage rooms for raw materials and warehouse space for finished products? We'd recommend enclosing these areas, as much lower temperatures can be held, with resulting easily recognized economies.

There's one thought we'd like to pass along on this storage matter. That's the problem of moisture condensation. Suppose you have a lot of chemicals of hygroscopic nature, or suppose there is quite a tonnage of unworked, raw steel, or unfinished parts, dies, moulds, lumber, plywood, cloth, fiber, paper, etc. in storage. You've been keeping this material in either unheated or low temperature rooms. Along comes a wind shift, and warm, humid air moves in. This air, coming in contact with your cold materials, quickly cools to the dewpoint and deposits most of its moisture content. The thirsty chemicals, lumber, plywood, cloth, fiber, or paper soak up this water, and your steel items begin to rust. It can and does cost industry a lot of money every year.

Controlled Temperatures

Can we help you lick this problem? Yes, by equipping your store room unit heaters with humidity as well as thermostatic controls. You set the thermostats at say 45 degrees. You set the humidistats at say 40% relative humidity. In operation, the thermostats will keep the room temperature up to 45 degrees, but regardless of this room temperature, the humidistats will turn on the heaters and keep them on until the relative humidity is below 40%.

Yes, this set-up will result in some pretty hot storage rooms during the summer, but if stored materials are not affected by high temperatures, and if you ordinarily have damage from moisture, it's a sound idea that has afforded large savings to numerous industries. A mere 20 degree rise in temperature will drop the relative humidity approximately 50%. Naturally the stored materials have to be warmed up too, so good circulation is needed. Using this plan won't run your equipment costs sky-high because as the outside temperature increases your building heat loss will remain about constant as you warm the interior.

Material Handling

What are your plans for overhead conveying and material handling equipment? We'd like to know what to expect in the way of possible interference when it comes to hanging and venting the unit heaters. We'd also like to know what clearances we'll have to keep to stay out of the way of floor traffic and machine tool installations. We prefer to keep our heaters mounted about 8 to 10 feet above the floor, but naturally don't want them in the way of necessary traffic.

Location of Units

Why do we like to hang unit heaters only 8 to 10 feet above the floor? That's a good question. You see, overhead heaters must drive warm air down to the floor and disturb that layer of heavy, cool air on the surface. We don't have to worry about how much air is above the heaters when considering circulation requirements for comfort. The fans grab the lightest, and therefore warmest air they can get, drive it thru the heaters and down at the floor. That's what keeps us from having high temperatures up under the roof.

Take that erecting shop your prints show. It will be forty-five feet high, and will have a twenty ton crane which travels the entire length of the room. Looks like a tough proposition to heat? We've had them just like it, and they came out fine. After running a heat loss, we'll calculate the air delivery needed to circulate all the air below the heaters about 5 to 6

times per hour, figure the number and capacities of units required to meet the heat loss and circulation need, and make a layout. Heaters will cross-fire, and be hung from alternate columns on either side. They'll be eight feet above the floor. To insure good venting we'll equip each unit with a power exhauster and stub the vent pipes out the sides, and have weather capped open Tees at the ends of our stub vents. Wouldn't want to run vertical stacks either inside or outside the building — too much condensation of flue products in such long stacks. The job will work.

Fume Removal

How do you plan to clean metals before finishing? Sounds like that's none of our business, but it's pretty important to know. Vapor degreasers have been widely employed. They use fireproof solvents, they are fast, and they require no drying of the work.

They also liberate toxic fumes which are hazardous to workmen's health and they can cause chemical pollution of the shop air to the extent that service life of gas unit heat exchangers is materially shortened. Subject these fumes, even greatly diluted, to a temperature of 400 degrees or more, and they break down into phosgene gas and hydrochloric acid. The acid will attack any practical heat exchanger metals. Platinum and tantalum are immune, and can stand heat exchanger temperatures, but somehow it would seem difficult to sell heaters so equipped.

Why don't you investigate the alkali cleaning processes which are reported harmless to men and hot metals? Or, if tri-chlor-ethylene degreasers must be used, isolate the process, mechanically ventilate the tanks, and either anticipate occasional parts replacements on unit heaters or plant a gas-fired boiler outside and equip the room with radiation.

Partitioning

The prints indicate that you intend to partition off your receiving and loading docks. We like that, because you don't have heavy infiltration of cold air into the work rooms. When sizing the heaters we'll provide extra pick-up capacity for the equipment in these rooms.

May we suggest similar partitioning off of limited working space in warehouses and other low-temperature rooms? Unit Heaters handle a lot of air, raise its temperature about 50 to 60 degrees, and shoot it out. If air enters the heater at about 40 degrees it will not, when delivered, feel very warm to the men working about fifteen or more feet from the face of this heater. These men are not going to be happy, and now-a-days they are not hesitant about complaining over working conditions. The Sun could do a grand job of spot heating, unit heaters just aren't made for that work.

Plant Layout

Your mock-up of machinery layout and that of materials bins and racks will help when planning the general locations of the heating units. Later, if changes occur which interfere with good heat distribution it will be a relatively simple matter to re-locate the particular heaters involved.

Piping Systems

Will you buy all of your gas on a firm basis? Is the rate the same for process and space heating? You'd want separate gas piping for the heater supply if any process gas is delivered on an interruptible contract, and if rates differ on the two types of usage.

If you have high pressure gas service perhaps you were thinking of carrying several pounds on the heater supply lines, in order to cut costs of pipe and installation, and to insure adequate supply as building additions come along. We should know, because unit heaters ordinarily come equipped with regulators capable of handling about one-half pound on the inlet side, with delivery at 3 to 5 inches water column pressure. With high pressure gas we'd want to specify extra regulators to reduce to one-half pound ahead of those on the heaters. We've had some unsatisfactory results with pounds to inches regulators on similar jobs.

Motors

While most plant engineers prefer three phase motors, they usually specify this type on motors of ½ H. P. and over. For simplicity of thermostatic control hook-up we'd recommend staying with the single phase 115 volt fan motors which are standard on the common sizes of unit heaters. Such motors are seldom over 1/6th H. P. in rating.

Thermostats

Let's plan on providing lock-type thermostats with substantial guards. These are delicate instruments, and may easily be damaged. In addition, workmen are almost invariably fascinated by them and frequently investigate the inner workings. Sometimes in their enthusiasm they even take them home for the further study. Clock-type thermostats usually pay for their added cost many times over in fuel savings. It is hoped that they may soon be secured with week-end shut-down feature.

Maintenance

What about maintenance? While gas heating equipment is automatic in operation, intelligent care and periodic inspection and cleaning will greatly lengthen the service life and insure efficient performance. Our suggestion is that the authority to handle this equipment be placed in the hands of definite personnel. The gas utility service experts and the heater manufacturer's representatives can speedily train such workmen in the necessary duties and how to cope with emergency adjustments and repairs. It is further urged that a limited stock of parts be secured to aid in this maintenance.

Office Heating

Heating requirements of your general offices, rest rooms, and shop offices will be handled as their needs and your preferences may dictate. If you plan on air-conditioning any of these areas, there are fine, year-round, gas air-conditioning units available, or we can employ the duct types of gas unit heaters in the distribution ductwork. Vertical, cabinet types of forced-circulation warm air units require little floor space, are quiet, will filter and humidify, and may be used either with or without ductwork. For offices having concrete floors laid on ground we think a lot of radiant heating. Such floors are inevitably cool, and with seated office personnel, the radiant principle provides a fine solution to a difficult problem.

Office heating should be independent of whatever type of plant system used. Requirements are different, both as to periods of heating time, and as to temperatures needed.

Heating Cost

With the information that you have supplied regarding your operations and construction, we are confident that we can give you a capable and reliable heating system, one that will cost much less than any comparable central-fired system, both to buy and to operate. These same considerations of requirements would apply where existing properties are being surveyed for modern gas heating.

Commercial Field

Commercial heating poses many equally fascinating problems. For sheer variety this field is unmatched, running the gamut from skyscraper to hamburg stand. For safety's sake we'd better stay on familiar ground, and be brief about even that.

Where best does the independent, gas fired unit heater, be it of suspended type, duct type, floor type, or circulating space heater variety, fit into the commercial heating picture?

Let's take overhead heaters. They do a grand job in super-markets, groceries, neighborhood shops, garages, warehouses, skating rinks, bowling alleys, service stations, wholesale houses, and in countless other applications where floor space is at a premium and initial investment is a major consideration.

Duct heaters permit all year utilization of air-conditioning equipment blowers and distribution duct-work, and also reduce heating equipment costs.

The vertical type forced circulation warm air units offer an answer to the problem of what to use where quiet operation is important, where filtering and humidifying of room air offers definite advantages, and where floor line pick-up of return air will assure greater customer comfort.

The inexpensive circulator provides a solution for those upstairs offices in our older commercial buildings, for the modest little shops in the fringe areas of our business districts, for the tourist cabins in the outskirts, and for the office space in many of the buildings which are naturals for overhead units in the major working area.

Many of the problems present in the field of industrial heating will be faced over and over again in the day to day analysis of commercial applications.

The amazing industrial growth of the South and Southwest, now proceeding with giant strides, focused our attention on the field of industrial heating. We hope that one or more of the thoughts presented will, at some time, prove helpful in your endeavors.

Problems Solved in Change-Over to Propane-Air

As told by O. W. Barenscher. Asst. Manager, Wisconsin Public Service Corp., Sheboygan, to John E. Hubel

THIS is going to be a very busy year for Wisconsin gas companies, especially the Wisconsin Public Service Corporation, operating in the eastern part of the state, in counties north and northwest of Milwaukee.

The company provides gas service in the city of Sheboygan with a low pressure system; and with a high pressure system to Kohler, Sheboygan Falls, Plymouth, Elkhart Lake Kiel, New Holstein and Chilton. Gas service is also provided in Oshkosh, Green Bay, DePere, Two Rivers, Stevens Point, Marinette, Peshtigo and Menominee. Two Rivers and Stevens Point are being served with 1,300 BTU propane-air.

The Sheboygan and Green Bay high pressure systems are 1,300 BTU propane-air for use outside of town. The Oshkosh southside is to be changed over to 1,300 BTU propane-air this spring. The cities of Sheboygan, Oshkosh, Green Bay, Marinette and Menominee are served with 520 BTU manufactured gas, for use inside the cities.

During the changeover on the Green Bay and Sheboygan high pressure system a temporary propane plant was installed at the end of the lines so that the changeover could be made in one city at a time. Ordinary street portable compressors were used for pumping the propane-air gas into the high pressure system.

Barenscher reports that when he attended the 1941 meeting of the Wisconsin Gas Utility Association—the last one until the 1947 meeting in Milwaukee, there were only two changeovers to propane in Wisconsin—one at Baraboo and the other at Rhinelander. These two installations did not excite a great deal of attention at the time, and were considered as isolated situations without any particular importance to other utilities. Now, Barenscher told the members of the Utilities convention in Milwaukee, that situation has changed drastically in Wisconsin, as virtually every utility has a propane installation, or will have in 1948, the plants being used either for peak load purposes, in connection with coal or water gas, or for the complete replacement of these two gases.

Mr. Barenscher states that the trend in Wisconsin is that within a few more years the manufacture of coal and water gas will disappear entirely, except for peak load purposes. The utilities will be distributing either propane-air, or natural gas.

Now for a few remarks regarding the characteristics of propane gas. "What I have to say," Mr. Barenscher stated, "is directed particularly to those who have not as yet had any changeover experience.

"Propane is cleaner and more efficient, but you are not going to like it, initially. Neither will your customers. It is slower burning and causes ignition difficulties. It must be handled differently, because it is heavier than air. It presents new, varied problems, and until you have solved these you are going to wish you had the manufactured gas.

"You will receive few compliments from your customers. In the first place you have imposed upon them, in making the change for they had no choice in the matter. The changeover is a decided inconvenience to them. Some must wait for days before they can use their oven or automatic water heater. The top burners usually give very poor service. After the changeover the customer is quick to note that the new gas is not exactly like the old. Top burn-

ers may be slower, the oven may not bake the same, and there may be delayed ignition of burners. Until you know the answers to all these problems, you naturally will not like propane-air."

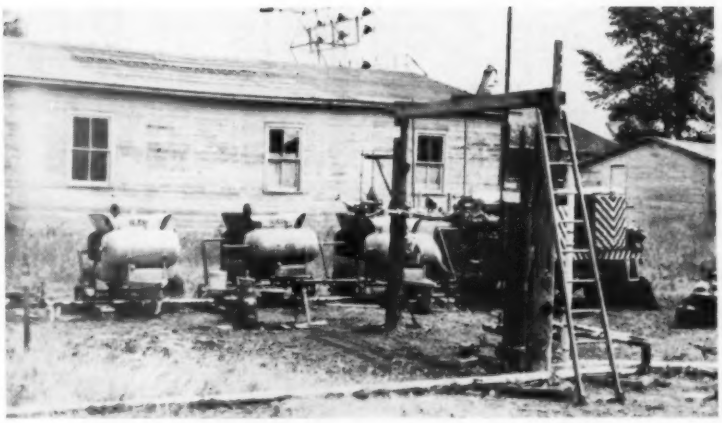
Delayed Ignition

Our first changeover was at Stevens Point. The first difficulty we encountered was delayed ignition, and it appeared like an almost hopeless problem. The first thing we discovered was that adequate pressure is essential in overcoming delayed ignition. We found delayed ignition to be very bad with 3" of pressure. As the pressure was increased, ignition improved up to a pressure of very close to 6". Over 6" we again encountered difficulties. We used many different devices and methods to improve ignition, but regardless of the device used we always got the best ignition with close to 6" water column pressure.

Virtually all of the ignition difficulties were with top burner ignition and oven burner ignition. You will recall the modern gas range has the automatic lighter. From the pilot light there is a tube extending to the burner. On the side of each burner there is a gas orifice, sometimes referred to as the burner ignition orifice. After the gas issuing from this orifice is ignited, it is supposed to in turn ignite the gas coming from the burner ports. Between the ignition orifice and the ignition tube there is a certain space which varies from a good ½" down to ¼" This open space was not objectionable with manufactured gas, or gas lighter than air, but with propane gas a wide space between the ignition orifice and the ignition tube caused delayed ignition. To overcome that in many instances we removed the existing ignition orifice and installed a #12 orifice, as listed in the Anderson & Forrester catalog. This brass orifice is much longer and would come closer to the ignition tube. The #12 orifice would also need to be slotted so there would be a vertical flame to ignite the gas coming from the burner ports.

Another procedure was to take an ordinary plug orifice and drill five #55 MTD drill size holes in it. A plug with five holes in it would do a better job than an orifice with only one hole.

As you probably know, the modern gas range oven has the so-called lighter hole, or an opening in the oven proper wherein the customer may apply a match in order to light the burner in the lower compartment. In many cases the heavy propane gas would not carry up into this lighter tube so that the burner could be ignited. Many different procedures had to be followed to overcome this situation. In some cases it could not be overcome at all, and we simply asked the customer to ignite the burner in the lower compartment by applying a match to the burner ports. Not infrequently the ignition tube from the oven burner was not in a complete iron or metal tube, but only a half circle of metal. With a gas lighter than air it would travel along this half circle to the point at which the match was to be applied. You can readily understand what happened when we dealt with a gas heavier than air. The gas would not follow this half circle. We, therefore, had to complete the circle to make the perfect tube by wrapping sheet copper around the existing metal to form a tube. This would prevent the heavy gas from leaving the tube and would then give proper ignition.



Temporary Propane Plant installed at Sheboygan, Wis., for service outside of city limits, by Wisconsin Public Service Corporation.

Pilot Lights

The safety pilot on some water heaters would tend to stick in an open position with the pilot extinguished. This is not serious in the case of a gas lighter than air as the unburned gas would carry up the vent into the chimney. In dealing with a gas heavier than air, like propane, this is a serious problem. In all such situations as these on certain types of water heaters, which were known to us, we replaced the existing safety features with a Baso valve. This was also true on many house heating installations.

Service Crews

Our next job will be Oshkosh South Side, where we will convert ¼ of the meters in that city. This should come close to being the ideal changeover, for all the problems peculiar to the type of appliances on our gas systems will be solved. By that time we will have close to 50 service men and supervisors trained in all phases of the work. The real answer to the problem is to have supervisors and servicemen who are trained in this work.

The real problems occur after the crews have completed their job and left for the next city.

In Sheboygan we normally had one or two men handling complaints on our high line system. For the first month after the conversion we had seven men handling complaints or one complaint man for each 500 meters. An inspection card was made out for each complaint and a complete inspection of all appliances was made at the given address. When the men were not handling complaints they made inspections, first of all commercial appliances and later of residential appliances. Within six weeks we had made a call back, and inspection of the appliances of from 40% to 60% of the customers in each of the seven communities that were changed over. In those six weeks we had very few call-backs. The servicemen did a good job on the first call.

Pipe Welding Clamp. Folder issued by Mulcare Engineering Co. Inc., 53 Park Place, New York 7, describes "Tipton" pipe-welding clamp to hold pipe ends in alignment during welding operation. Widely used by pipe line contractors, oil and gas companies.

Gas Councils of P.C.G.A. Discuss Standards and Programs

By
Fred A. Herr

THREE noteworthy actions emerged from the agenda of three Pacific Coast Gas Association council sessions held on successive days on February 25 and 26 in the auditorium of the Southern California gas Company in Los Angeles.

1) The Range and Refrigerator Council, meeting February 25, adopted a resolution recommending appointment by the PCGA of a subcommittee to its sales and advertising section to co-operate in the instrumentation of appliance sales and promotion programs of utilities and manufacturers by setting up procedure for the use of uniformly sized and planned display material in order that the cost of such material may be reduced by purchasing it in large volume through the PCGA.

2) The Gas Water Heater Council, meeting February 26, authorized its sizing committee to proceed with the preparation of a volume water heating sizing chart and specification recommendation for use by restaurants, hotels and other large users of hot water.

3) The Gas Heating Council, meeting in the afternoon of February 26, approved the first draft of a set of recommendations for selling, adequately sizing and making correct installations of gas heating appliances, and authorized a committee to prepare the report in final form for submission to and publication and distribution by the PCGA general body.

Range-Refrigerator Council

The Range and Refrigerator Council met on February 25 with J. L. Hall, general supervisor of commercial sales for the Southern California Gas Co., as general chairman.

The proposal for appointment of a special PCGA committee was advanced and approved by the 70 utility and gas range manufacturer representatives attending this session during a review by H. M. O'Haver of Southern California Gas Company of the merchandising and promotional programs planned in 1948 by West Coast utilities.

In introducing this phase of the range discussion, Mr. O'Haver emphasized that there is need for improvement and greater usage of display material than now exists and stated that most gas company and manufacturer personnel is cognizant of the inability of the gas industry at present to compete adequately with the advertising and promotion material available to electric appliance distributors.

O'Haver exhibited a 24 x 30 inch display card frame mounted on a footing that brings the advertising message to eye-level on both sides. He commented that if such display frames were made in uniform size, they probably could be purchased at far less cost through cooperative efforts of different gas companies.

Stating that it is obvious that by cooperating, all utilities on the West Coast could considerably reduce the unit cost of advertising and promotion material by having it produced and purchased in large quantities through a central source, Mr. Wollenberg of Coast Counties suggested that this matter be handled through a special committee of the Pacific Coast Gas Association.

The recommendation was brought to vote and approved unanimously. The proposed committee would be empowered to cooperate with the sales, promotion and advertising plans of all utilities in an effort to upgrade gas appliance sales. It would also lend assistance in collating ideas on display material and, through a bulk purchase arrangement, make such items available at less cost per unit than is possible through individual company purchases.

One of the highlights of the Range Session was the reading of a comprehensive report on a new domestic kitchen ventilating hood which has been developed at the appliance testing laboratory maintained jointly at Los Angeles by Southern California Gas Co. and Southern Counties Gas Co. The report was presented by Harry Warren, laboratory supervisor.

As shown in a display model mounted on the stage, the hood is incorporated in a new range design. Warren's report emphasized that the hood was also designed for convenient attachment to conventional gas ranges without requiring radical alterations or complicated installation procedure. The working model showed how the hood permits the range to be mounted flush to the wall. The motor is housed in one of the range drawers. The exhaust duct extends through the floor and connects with the house discharge vent. The hood control is mounted on the regular instrument panel at the front of the range.

Warren's report disclosed that one of the objectives of the vent hood research project was to devise a hood that would not affect in any manner the cooking or baking qualities of the range, whether turned on or off.

Gas Water Heater Council

The Gas Water Heating Council of the PCGA met February 26th, with 65 in attendance. Clyde H. Potter of Southern Counties Gas Co. served as general chairman.

Clyde H. Potter

Since the principal discussion at this council session dealt with the sizing of volume water heaters, invitations had been extended to officers of the Los Angeles Merchants Plumbers Association to attend. Representing the plumber-dealer group were Homer Nile, president, and H. C. Gage, chairman of the Water Heater Committee of the Los Angeles M.P.A.

A review of the domestic water heater sizing charts developed by the

council several years ago was given by Claude Ballinger of the General Water Heater Corp., who reported that gas utilities on the West Coast have spent well over $100,000 in promoting acceptance of the domestic water heater charts.

Volume Heater Sizing Approved

Encouraged by the success attained with its sizing program for domestic water heaters, the PCGA Water Heater Council last year appointed a committee to investigate the practicability of drawing up similar sizing recommendations for water heaters used by volume hot water consumers.

R. D. MacMahon of the Southern California Gas Co. chairman of that committee, presented the results of the committee's work at the February 26 council session in Los Angeles.

Mr. MacMahon pointed out that with the American Gas Association emphasizing water heaters in its announced 1948 and contemplated 1949 advertising and promotion programs, the consuming public will be more hot water conscious than ever, making this an ideal time for bringing the PCGA's plans for volume water heater sizing to fruition.

In presenting a voluminous report for consideration, Mr. MacMahon explained that the problem of research and preparation of the recommendations was approached from two aspects:

1. The assembly of effeceive data on proper sizing of volume water heaters in suitable form for use by dealers.

2. To condition restaurant, hotel and other users of large volumes of hot water of the advisibility of investing sufficient money to assure themselves of adequate supplies of hot water.

Mr. MacMahon announced that the committee proposed the preparation of a brochure which would be sent to all users of large amounts of hot water in the area covered by the PCGA setting forth the reasons why they should install adequately sized hot water heaters. The main point of the program MacMahon disclosed, is to place in the hands of plumber-dealers all possible information on the subject, which the committee recommended be accomplished through a booklet which would be entitled "Volume Hot Water Sizing."

The Water Heater Council, by unanimous vote, authorized the MacMahon Committee to proceed with the completion of the tentative data into a final draft, to prepare charts for volume water heater sizing, recommend contents and size of booklets and brochures, and to submit the completed project for final consideration to the PCGA.

R. C. Terradell, chairman of the PCGA's sales training committee, reviewed the plans of the committee for training personnel in effective water heater merchandising.

PCGA President Speaks

In reviewing the outlook for the water heater industry in 1948, A. H. Sutton, head of the Mission Appliance Corp., and incumbent president of the Pacific Coast Gas Association, declared that, fundamentally, the outlook for the gas water heater business in 1948 is excellent.

"Barring a major economic change," Mr. Sutton said, "there is no reason to doubt that there will be sales of boom proportions for water heaters in the new construction field. I believe, however, that our replacement sales will encounter customer resistance and we will have to resume competent salesmanship. In some areas, a fuel shortage may retard expansion."

Gas Heating Council Meets

The PCGA Gas Heating Council met on the afternoon of February

"Elno"

TRADE MARK REG.

RUST PREVENTER

For Automatic Water Heaters, Range Boilers, And All Types Of Hot Water Storage Tanks

"Elno" prevents rusty water in domestic and industrial water heating systems. It is a pure and simple rust preventer. It extends the life of galvanized storage tanks, especially where corrosive water conditions exist.

"Elno" is made to fit all makes of Automatic Water Heaters, Range Boilers, and Large Volume Hot Water Storage Tanks.

"Elno" is easy to install. Remove the hot water fitting and replace it with the "Elno" rod—that's all. "Elno" is equipped with a hot water fitting.

"Elno" enables you to sell Clean, Rust-free Hot Water Service. "Elno" gives you another talking point, an added selling feature.

There is an "Elno" made to fit the water heater you sell.

Write for prices.

If you want to read the Story of Corrosion, its Causes and Prevention, write for Facts Bulletin No. 102.

The Cleveland Heater Co.

"Elno" Division

2310 Superior Avenue **Cleveland 14, Ohio**

26. A. C. Miller of Pacific Gas & Electric Co., San Francisco, served as chairman.

A. B. Banowsky of the Payne Furnace Co., Beverly Hills, introduced a novel note at this session by having his gas heating appliance standardization committee hold a meeting in the council chamber, with other members of the Gas Heating Council looking on as spectators.

The intra-council session was called by Mr. Banowsky to permit his co-committeeman to confer on changes and revisions in a 73-page report prepared by the committee on "Recommendations for Selling, Adequately Sizing and Making the Correct Installations of Gas Heating Appliances."

Recommended Installation Methods

The recommendations contained in the report prepared by the Banowsky committee are designed as an aid to selling appropriate gas-fired air heating equipment and as a guide to making an approved installation of such equipment.

The Gas Heating Council subsequently voted to adopt the report, subject to final revision, after which it is to be submitted to the PCGA for publication and distribution to the industry.

It was pointed out during the discussion, that it has become recognized that unless properly sized gas warm air heating appliances are selected and the installations made with at least minimum-quality installation standards, the user of the equipment is denied the full benefit that should accrue to him. The information contained in the report, Mr. Banowsky announced, was carefully reviewed and submitted to the Gas Heating Council with that objective in mind.

"Musts" and "Don'ts" Given

Recognized "musts" and "dont's" of various organizations in the heating industry are interpolated at appropriate places in the text, as are also schedules of gauges and sizes and other general informaton that might aid the installer.

One whole section is devoted to specifications for gas winter air-conditioning systems and includes complete data for installing such equipment. Other sections deal with gravity warm air heating in *old* homes, a section for such installations in *new* homes, and sections on standard forms of piping, chimneys, flues, vents, etc.

Replacing Unvented Heaters

H. M. O'Haver of Southern California Gas Co. led a discussion of means for replacement of unvented, outmoded and inadequate portable space heaters, together with what type of cooperative action could be taken by the industry to replace such equipment with vented, permanently installed gas heating appliances.

Eight methods were cited during the discussion as lending themselves to encouraging the replacement of dangerous, unvented units. These were:

1. **By displaying properly vented heating equipment on utility company display room floors.**
2. **By keeping unvented, portable heaters out of display rooms.**
3. **By educational programs designed to promote in the consumer's mind a desire for high-quality units.**
4. **By training utility representatives to teach prospects the advantages of adequately vented heating equipment from the safety as well as comfort angle.**
5. **Through expanded advertising and promotion programs, and the use of direct mail, circulars, etc., in which the safety angles of quality heating units are effectively set forth.**
6. **Avoidance of "scare" type selling and advertising.**
7. **Proper training for heating installers.**
8. **Obtaining lists of householders that use old-style heaters that should be replaced and concentrating on them a direct-mail program planned to call their attention to the advantages of modern equipment.**

Developments in the liquefied petroleum gas industry and how they affect manufacturers of gas heating appliances, together with some discussions of current utility activity in so-caled "fringe" territories, was the subject of a talk delivered at the Gas Heating Council by Louis M. Hull of the Hammell Radiator Engineering Co., Culver City, Calif.

Keating Appointed to S. West District for A. O. Smith Corp.

L. M. Keating, assistant to the president in charge of distribution of the A. O. Smith Corporation, has been appointed executive administrator of the company's Southwest District Office in Houston, Texas, it was announced recently by W. C. Heath, president. Mr. Keating replaces B. F. Bart, recently deceased.

In Houston, Mr. Keating will be in charge of all of the company's interests in Texas, Missouri, Louisiana, Oklahoma, Mississippi, Arkansas, Kansas, Colorado and New Mexico, and will supervise branch offices in Dallas, Midland, Tulsa and New Orleans.

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Horizontal or vertical types—welded or riveted construction.

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Plant Design for LP Gas Hinges on Adequate Supply for Future Deliveries

By
Francis E. Drake*

WITH the accelerating expansion of demand for L P gases for complete conversion, standby, gas enrichment and industrial uses, the question arises as to the availability of propane and butane covering a long-term period.

Serious consideration ought to be given as to whether new L.P. plant installations and storage should be designed for propane *or* butane, or both, so that an adequate supply may be assured the distributor over a period of years.

Reviewing the last report of the United States Department of the Interior, Bureau of Mines' publication, released September 22, 1947, one finds that "the different uses of liquefied petroleum gases rose sharply in 1946. . . . Sales of liquefied petroleum gases for domestic or household fuel have more than doubled since 1943, and the 1946 total of 766,150,000 gallons was 44% over the 1945 demand of 533,262,000, and this expansion compares with gains of 20% in 1945 and 29% in 1944.

Deliveries of liquefied petroleum gases for domestic fuel made up 45% of the total for all uses in 1946, a slightly larger proportion than the 42% reported for both 1944 and 1945."

This same report shows that the sales of liquefied petroleum gases in the United States were as follows:

	Butane	Propane
1940	77,056,000 gals.	109,216,000 gals.
1945	325,140,000 gals.	444,581,000 gals.
1946	438,439,000 gals.	548,827,000 gals.

Besides the above, there were butane-propane mixtures, pentanes, etc. which gave a grand total for

1940	313,456 gals.
1945	1,276,766 gals.
1946	1,705,282 gals.

We also find in the same report the following:

"Over a third of all sales of liquefied petroleum gases were sold for non-fuel uses in 1946. The quantity reported for synthetic rubber components increased from 208,787,000 gallons in 1945 to 289,442,000 gallons in 1946, a 39% gain, while in addition the total indicated for chemical raw material of 307,655,000 gallons was 37% above the 1945 demand of 224,291,000 gallons and more than double 1944 requirements. It is believed that the demand for liquefied petroleum gases for use in the manufacture of synthetic rubber probably reached a 'peak' volume in 1946, as the output of synthetic rubber is being curtailed as more natural rubber becomes available. It should be added, however, that the greater shrinkage in the demand for raw material going into synthetic rubber has been in the alcohols from agriculture sources because of their higher cost, rather than in liquefied gases derived from petroleum and natural gas. The liquefied petroleum gases reported for chemical raw material in 1946 are believed to be below the actual demand by chemical plants as some of the other hydrocarbons such as ethane, pentane, hexane and heptane, are not included, and furthermore, it is also believed that some companies did not report all material moved to chemical plants by pipe lines."

Butane Situation

A reference in that same report is also made to the use of butanes as internal-combustion engine fuel. In 1946 this quantity was 96,220,000 gallons which is 3% above the 1945 total of 93,340,000 gallons.

No specific mention was made in this report on the use of butanes in the manufacture of *plastics*. This was covered under chemical use. Here is a fast-growing field of tremendous size which today is but barely started and during the expansion of the next decade is bound to absorb millions of gallons of butane annually.

During the war there was a greatly increased demand for butane for military purposes such as *100 octane gasoline and synthetic rubber*.

From refiners' reports it would appear that almost, if not quite 95%, of the potential butane to be recovered is at the present time being extracted in most of their plants as well as at the natural gas cycling plants.

Propane Availability

Propane, however, presents a different picture. Presently in some plants it is still going to be the "flarehead." In others, but 10% is being reclaimed, while in most plants but 40% is being procured for the market. From the foregoing, it is quite evident that the future of propane is much brighter from the average distributor's standpoint than is that of butane.

It would seem, therefore, that the premise we in our company have adopted the past few years is the proper one.

First: Advise all prospective customers to install plants for propane rather than butane.

Second: Install the maximum tankage they can economically afford so that they may have sufficient stock to carry them over delayed shipments in the winter time.

Third: With a propane tank plant a user can avail himself of butane if it appears economically feasible. On the other hand, propane cannot be used in butane plants.

The extra investment required for a propane plant is soon counteracted by the advantage of:

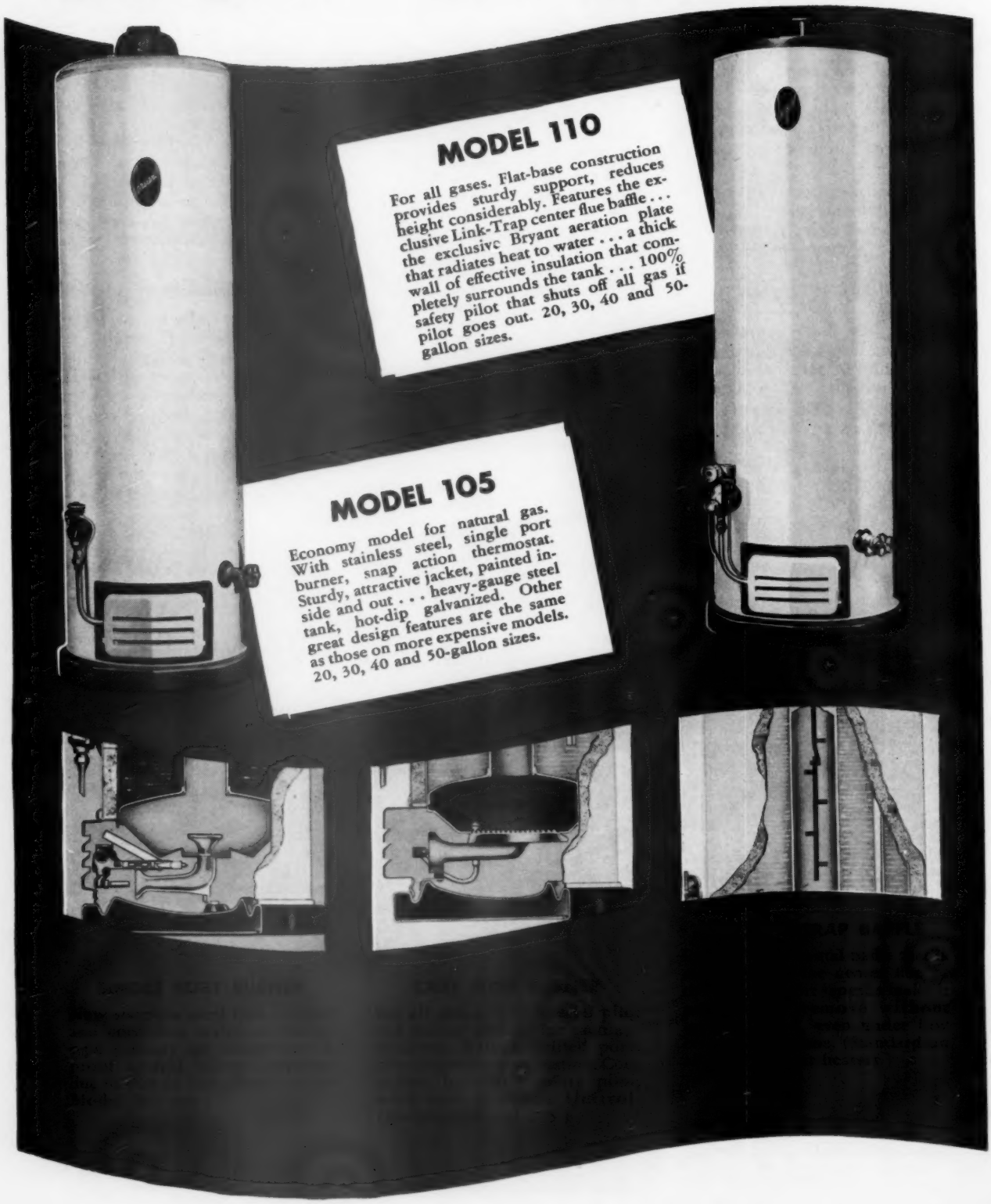
1—Additional safety inherent in the heavier construction.

2—Flexibility and adaptability to changing markets occasioned by supply and demand.

From the foregoing resumé it seems to us quite evident that anyone contemplating LP gas in any form should, for utility, industry or bottling plant, unhesitatingly make the slight additional investment required and install a propane tank farm, be it for one or one hundred tanks.

**Vice President and Chief Engineer, Pacific Gas Corporation.*

hot water


MODEL 110
For all gases. Flat-base construction provides sturdy support, reduces height considerably. Features the exclusive Link-Trap center flue baffle . . . the exclusive Bryant aeration plate that radiates heat to water . . . a thick wall of effective insulation that completely surrounds the tank . . . 100% safety pilot that shuts off all gas if pilot goes out. 20, 30, 40 and 50-gallon sizes.
MODEL 105
Economy model for natural gas. With stainless steel, single port burner, snap action thermostat. Sturdy, attractive jacket, painted inside and out . . . heavy-gauge steel tank, hot-dip galvanized. Other great design features are the same as those on more expensive models. 20, 30, 40 and 50-gallon sizes.

is big business for you with these Bryant AUTOMATIC STORAGE WATER HEATERS

MODEL 115
With all the great features of the Model 110—plus the *Protect-O-Rod* that prevents corrosion, provides extra-long tank service even in areas where hard water conditions prevail. Like the Model 110, features the special cast iron burner with raised, drilled ports specifically drilled and orificed for the particular type of gas to be burned. 20, 30, 40 and 50-gallon sizes.
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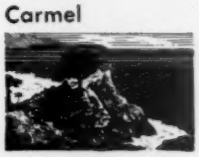


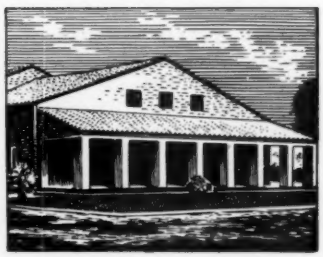
VISIT THE LP-GAS INTERNATIONAL TRADE SHOW AT SACRAMENTO, CALIFORNIA

The first annual LP-Gas International Trade Show is being held in Sacramento, California, on June 3, 4, 5 and 6, following the L.P.G.A. National Convention.

Plan now to break in your new car on a trip to California, which can be of much interest and profit to you, and be thoroughly enjoyable to your wife and family.

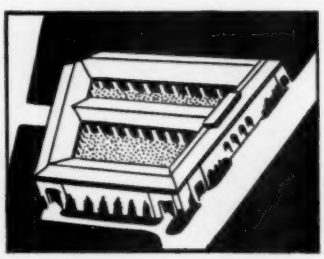
It is not necessary to be a member of L.P.G.A. to visit the show or to exhibit your equipment and appliances. An invitation is extended to all who have a mutual interest in LP-Gas, Natural or Manufactured Gas.

After the show closes, take the time to enjoy the natural beauties which alone attract tourists by the millions. Attend the show staged in a natural vacation land, enjoy the hospitality of people who are anxious to show you California and the great Pacific Northwest.



Governor's Hall

One of the fine buildings on the State Fair Grounds seats 1500 persons, and will be used during the show for the cooking school, and for entertainment features and attractions.



Machinery Hall

This building, with 64,000 sq. ft. of Indoor Display Space, and 80,000 sq. ft. of Outdoor Display Space, will house the multitude of exhibits portraying "LP-Gas in Action."

Sacramento, California.

Bob Johnson, Director

LP GAS INTERNATIONAL TRADE SHOW

3743 ALAMEDA AVENUE OAKLAND, CALIFORNIA

Some Things the Retail Salesmen Should Know About Water Heating

By

C. H. O'Donnell

Superintendent—Development Division
Boston Consolidated Gas Company

IN SELLING a customer an automatic gas storage water heater we must first convince her that the heater is of durable construction, safe to use in the home and capable of satisfactory performance.

Naturally, she cannot predetermine these qualifications herself and therefore wants assuranace from some authority which she can recognize and in which she can place her faith. So we proceed to point out the Blue Star Seal of the American Gas Association Testing Laboratories and wonder why she displays so little interest. And why not?

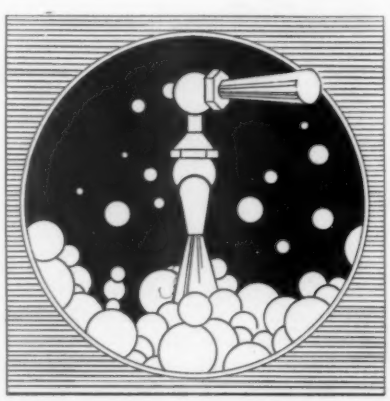
On the face of it, doesn't the use of the term Gas Association sound a little as though this were an industry affair, embracing the interests of its members more to heart than those of its customers? Perhaps so and we have some indication that our industry recognized its limitations in this respect and took steps to set such a high standard of operation that the American Gas Association Laboratories became the largest and best equipped organization of its kind in the world.

In addition, seventeen years ago the American Gas Association's Approval Requirements Committee became a Sectional Committee of the American Standards Association, the leading agency in the world for the development of all consumer standards. Thus the official requirements under which a water heater is tested are not merely those of our industry but of the American Standards Association. Furthermore, by virtue of the national esteem held for our Laboratories, the authority for the final approval of the water heater has been given to the Laboratories by the American Standards Association.

Therefore, the Blue Star Seal of Approval really means tested and approved as American Standard and we can truthfully tell the customer, with all the pride and fervor which the words imply that this water heater is *Built to American Standards*. This term should be readily recognized and appreciated, for today, on all sides we hear it used to represent better living—The American Way.

As you know, the official requirements are contained in a published pamphlet entitled American Standard *Approval Requirements for Gas Water Heaters*. This pamphlet is widely distributed by our industry and is available to anyone. In itself it makes for an excellent sales tool which we can use to stimulate the customer's confidence in our sales story.

To further our own confidence in automatic gas storage water heaters we should appreciate that, in comparison with other fuel methods the conventional gas heater of today is unique in that nearly all of its storage capacity is available as usable hot water, that is, water hotter than 120° F. This means, first, there is but little temperature difference between the top and bottom of the tank at the end of the heating cycle. Second, the introduction of cold inlet water does not appreciably affect the temperature of the hot water being drawn and third the application of heat from the gas burner does not create a turbulence which would lower the temperature of the water already heated. These three features enable the customer to draw off more hot water from an automatic gas storage water heater than any other fuel method, gallon for gallon capacity. In terms of initial investment this means the customer gets more for her money.



Water Heater Test

This can be readily demonstrated to your own satisfaction by running the following simple test which explores the internal characteristics of the heater.

Take a thirty gallon underfired heater having either an internal or external flue and connect to a 70° water supply. Fill heater and turn on burner. Determine when top temperature reaches 150° F. by taking temperature of small samples of water from top of tank. When 150° F. is reached cut off burner by adjusting thermostat to this point, thereby leaving burner in position to come "on" when water is drawn.

Now wait about ten minutes for conditions to come into equilibrium and then start continuous draw of water from the top of the tank at a good rate, say three gallons per minute. Keep track of the temperature and the amount drawn (using 10 quart pails à la bucket brigade if no other means are available). Continue the draw till the temperature reaches 120° F. This is the end of the test.

Plot the temperatures against the gallons drawn and you'll find that no appreciable temperature drop occurs for at least 60% of the storage tank capacity and that pretty nearly all of the capacity can be drawn without the temperature dropping below 120° F. This demonstrates that the heater does embody maximum storage of hot water, correct introduction of cold water and ideal application of heat to the end that a greater degree of utilization is afforded the customer than with any other fuel method.

Naturally, a gallon of water at 150° F. is considerably more "useable" than a gallon of water at 121°. This gives us a means of evaluating the results of the preceding test as follows: Subtract 120° from the temperature of each gallon drawn for the entire draw. Add these differences and the result will be the quantity of usable hot water expressed in Degree-Gallons, a term similar to the Degree-Day so widely used in house heating.

It has been found that the tem-

perature of the inlet water does affect the quantity of usable hot water that can be drawn from a heater. One might infer that a heater adjusted according to the preceding test might fall way short of an equivalent performance with the low inlet water temperatures experienced in the winter. Bear in mind however, that the colder the inlet water the greater the temperature differential top to bottom of the tank. Thus with the same setting of the thermostat, the top temperature becomes increasingly higher so that the relative quantity of usable hot water is maintained.*

Sizing the Heater

In the sizing of automatic gas storage water heaters it is necessary that we change our previous thinking somewhat. Heretofore the drawing of hot water in the home was personally attended; therefore our customer could govern her use of it. In other words, when it ran cold she shut it off and either got along with the amount she had drawn or waited until more was available. In this way she could adjust her requirements to fit any particular size, type, method or fuel no matter how inadequate.

However, the advent of the automatic clothes washer and the automatic dishwashers has changed the picture greatly. Here we have two hot water requirements which do not recognize any deficiency in hot water supply—at least, they don't know enough to turn off the water when it runs cold. On the other hand it would seem that they just don't like cold water and when it is imposed upon them they retaliate by turning out dirty clothes and cloudy glassware.

The manufacturers and distributors of these automatic hot water using appliances are very much concerned over whether or not there is sufficient hot water available because these are by no means "traffic" appliances and the customer is not going to be happy over poor results. Therefore, without any effort on our part, we have acquired a most powerful ally and we should make the most of it.

It has been said that in the effort to partly circumvent this hot water bugaboo some automatic washer manufacturers are recommending higher initial temperatures to compensate for lack of volume. However from the standpoint of the life of the water heating equipment and general household use, extreme temperature is not desirable.

A logical approach to selecting a heater size would be first to consider the tank capacity as supplying the maximum hot water fixture and appliance use, such as bathtubs and automatic washers, then consider the burner size as taking care of the frequency of use. This might be all right except that a large burner is apt to create water turbulence in the tank and seriously hamper the delivery of usable hot water.

Conventional practice of approximately one M.B.t.u. per hour for each gallon of storage tank capacity seems to be about the maximum input for good results. In general this provides for a complete tank recovery in about one hour with 90 degree rise. Therefore, it follows that the storage tank must be large enough to take care of the maximum hot water demands at the same time carry at least part of the frequency-of-use burden.

A single sizing chart has been prepared by the Water Heater Council of the Pacific Coast Gas Association as follows:

MINIMUM RECOMMENDATIONS FOR NORMAL, AVERAGE HOT WATER REQUIREMENTS

Number of Bathrooms	Number of Bedrooms	Minimum Storage Capacity
1	1 or 2	30 Gal.
1	3 or 4	40 Gal.
2	2 or 3	40 Gal.
2	4 or 5	50 Gal.
3	3	50 Gal.
3 or 4	4 or 5	75 Gal.

According to their explanatory pamphlet:

1. "The chart is based initially on the fact (generally accepted by the industry) that no heater of less than 30 gallon storage capacity supplies adequate hot water to meet normal average domestic requirements."
2. "The chart recognizes that the life of an adequately sized water heater with normal usage is much greater than that of an undersized heater which is constantly overworked."
3. "The chart is based on the capacity of the house rather than on the number of persons who may be occupying the house at any given time. This assures adequate hot water service for guests, changes of tenants and emergencies."
4. "The chart recognizes that the importance of hot water service justifies a size of water heater that will permit simultaneous use of the majority of hot water fixtures installed in a house."

By all means this chart should merit our consideration. If we are inclined to look upon it as being rather liberal of our use we must bear in mind that our winter water temperature is much lower than many places on the Pacific Coast and therefore the chart for us is not liberal as first indicated. Actually such a chart becomes an effective direct selling tool. It is simple and yet at the same time it is readily understandable by the customer. It provides an opportunity for the customer to participate in selecting an adequate size heater for her needs.

Larger Size Economies

We should bear in mind that invariably the customer's investment cost per gallon is less with the larger size heater and this together with the very slight difference in operating cost should eliminate any hesitancy on our part to provide the customer with adequate hot water service. The automatic washers are definitely here to stay and in nearly every case provision must be made for their probable installation. Remember there is very little use for cold water as such in the Home.

For all practical purposes the monthly operating cost for an automatic gas water heater in a typical home can be taken as purely nominal. This is borne out by a study we made of the gas usage in a group of homes constructed during the five year period, 1938-1942.

Those homes which were equipped with a gas range and an automatic gas storage water heater showed an average monthly consumption of 5,200 cubic feet, whereas those that had a gas range only showed 2,200 cubic feet. Thus the indicated water-heater-only use was 3,000 cubic feet. However if we consider that the range-only use in all probability included some incidental water heating it might be more logical for us to use a consumption of 3,200 cubic feet per month as being the average typical family use for automatic gas water heating.

This in itself cannot be considered other than nominal and should leave no room in your mind for the mis-

(Concluded on page 50)

**Obviously, the recovery time will be longer in winter than in summer and this point must be kept in mind in the selection of heater size.*

Flexible Gas Unit for Infra Red Drying and Baking

By
James C. Hosken

DURING the war and conversion periods, emphasis was on speed and production and availability of equipment. Cost was secondary. Now that the price peak seems to have been reached, cost is becoming important again. But manufacturers who have once had equipment which speeds up their output will not willingly go back to slower methods even if the cost is less.

So the gas industry must have equipment to offer which is not only lower in initial cost and in operation, but also as rapid and effective as any other equipment available.

Baking in the Production Line

Enamel baking and drying are examples of production bottlenecks which completely dominate time schedules, particularly in mass production work. Work flows smoothly along until it comes to a long halt at the baking oven.

In such cases the requirement is for rapid drying equipment which will not hold up production but which can be installed easily *right in the production line*. Moreover, when the product is changed, the drying equipment must be rearranged at a minimum cost as quickly as possible. Some years ago an accepted answer to such problems was an infra-red lamp installation. As a consequence the gas industry lost an appreciable amount of business which, in normal times, would have been extremely serious.

Gas-fired Infra-red Panel

With the return to more normal conditions, gas engineers must look to new methods to compete with the old problems. One such is the Potterton infra-red panel which combines all the advantages of rapid production and extreme flexibility with great simplicity and the economy of gas. These panels consist of a special cast iron radiating surface heated from behind by a number of Bray burners placed in front of an insulating cover. Each panel has a gas rate of 10,000 BTU and is about 23″x 12″x4″. They are designed to be quickly built up into banks or tunnels surrounding the work which can remain on the assembly line conveyor. The framework is made of steel angle or pipe and the walls are filled in with polished aluminum sheet which is an excellent reflector for the infrared as well as the visible. Fig. 1 shows a flexible 24 panel conveyor installation in which the top and bottom rows of panels may be tilted if required and the doors need only be opened sufficiently to admit the work on the conveyor.

Radiation, Convection or Both

Quick drying of, say, synthetic resin enamels depends only on heating them to the required temperature and holding them there without overheating. The wavelength of the radiation falling on it has no effect on the setting time of the enamel. The speed at which the material can be heated up to the setting temperature depends on the temperature difference between the work and the heat source and on the surface area of the material and the source. The temperature and size of the material being enamelled are both fixed, leaving the temperature and area and the heat source as the variables. For even heating of intricate shapes a large area of heating surface is necessary. Potterton panels are therefore designed to run at as high a temperature as is compatible with the maximum radiant area and the simplicity of their construction. Panel temperatures may be maintained at anywhere between 400 degrees and 900 degrees F, the commonest being about 700 degrees F. In an ordinary convection oven in which the air and walls are at the temperature required to harden the enamel, the rate of heat transfer is very low because the temperature gradient is so small, particularly when the temperature of the work approaches that of the oven. At this point the work is radiating nearly as much heat to the oven as the oven is to it. The transfer of heat is much hindered by a layer of air which clings to the surface of the work and acts as an effective insulator. In a radiant panel installation the effective temperature of the walls is always much higher than that of the work and heat is quickly transferred by radiation which goes through the air round the work just as easily as light does.

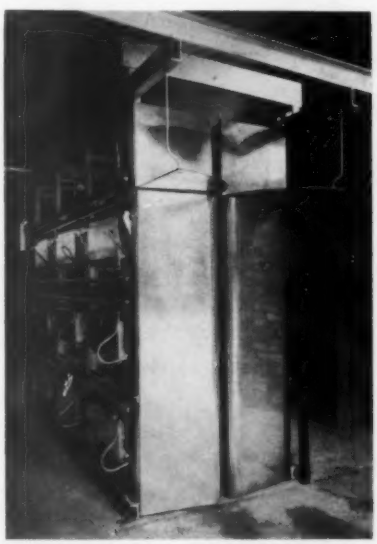


Figure 1

Temperature Control

If radiant heat alone is used to heat the work, as in most infra-red lamp installations, the temperature of the air round the work may be so low that parts of the work having a small cross section (such as wires or fins) may lose heat by convection to the air from their relatively large surface so quickly that they never reach the temperature required to set the enamel. For this reason gas panel installations with their large heated area in contact with the air in the oven are designed to maintain a high air temperature around the work. If a high air temperature is maintained with electric lamps, maintenance and lamp replacement costs immediately begin to go up.

With the shorter wave lengths of infra-red radiation difficulty is sometimes experienced with selective heating of different colored enamels, the lighter colors absorbing less heat than the darker ones. Most of the energy emitted by the Potterton panels is in the band of 3 to 9 microns and at these wavelengths all colors behave virtually alike. This means that white enamel will be baked just as quickly as dark colors.

Simplicity and Unit Construction

The Potterton radiant panel is as simple as a gas appliance can be and requires the least possible amount of maintenance. The Bray burners have no injectors to be cleaned and the efficiency of the cast iron radiating panel is entirely unaffected by age.

The unit construction principle makes it simple to build equipment for any purpose with the same components. Fig. 2 shows one of the largest installations of infra red panels, used in this case for drying rust proofing coatings on side units of prefabricated steel houses. Eighty panels are used and this is a good example of the flexibility of gas compared with electric lamps. If the input to the top panels were the same as that to the bottom ones fifteen feet below, the effect of the rising current of hot air would be to heat the top of the work more than the bottom. This effect is however counteracted by reducing the gas pressure on the top panels. The supply pressure is maintained constant by pressure regulators and the supply to individual banks of panels is adjusted to the required level with manometers. If necessary the gas rate of individual panels can be adjusted. In the photograph the operator is checking gas pressure on a manometer. Fig. 3 shows a 64-panel unit with a control valve for each bank of four panels. Separate gas cocks in the small bore tubing to the manometers enables the pressure in each bank to be checked individually. The pressure regulator for the main supply is shown, (A), at the bottom of the photograph. This very simple and cheap control system proves in practice to be as effective as a complicated and expensive automatic system.

In cases where a simpler form of enclosed construction is required the angle iron framework carrying the panels is extended outwards to support aluminum doors extending from just above the highest panels to just below the lowest. The framework is also extended upwards to carry a simple sloping canopy which is connected to the exhaust fan or flue.

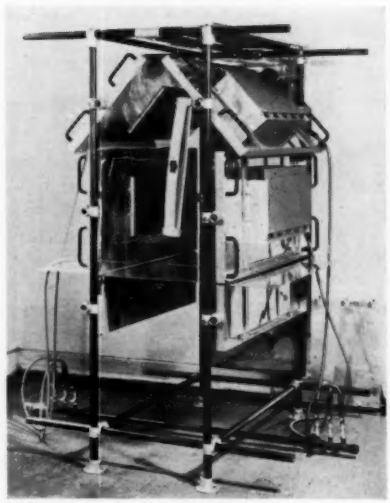
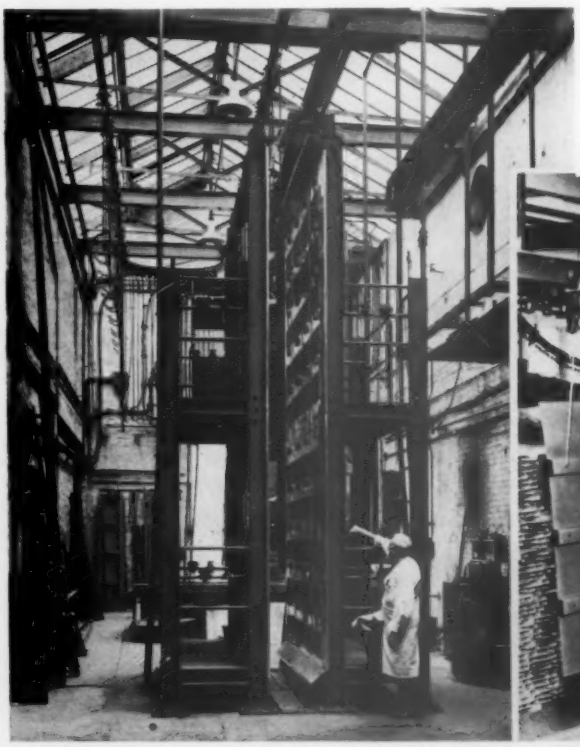


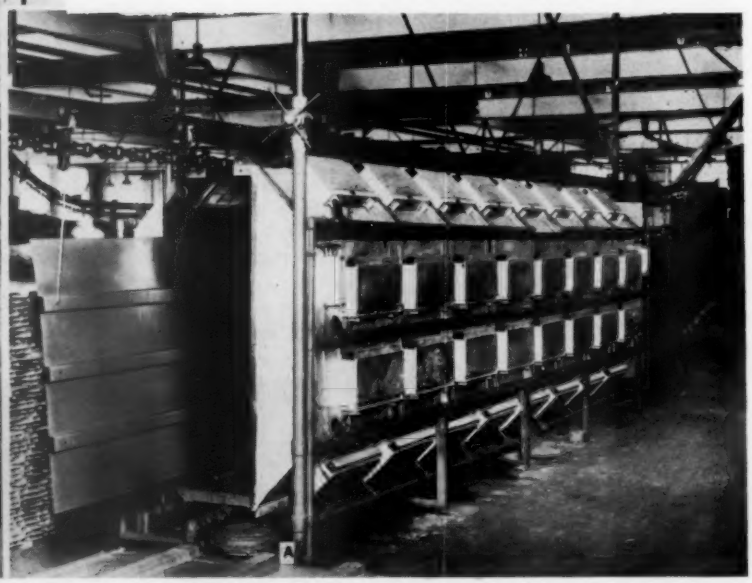
Figure 4

These radiant panel units are being supplied to appliance makers initially in New England and New York. Fig. 4 shows a demonstration unit for use by salesmen and gas companies in obtaining experimental data on the drying times required for consumers' products.



← Figure 2

Figure 3 ↓



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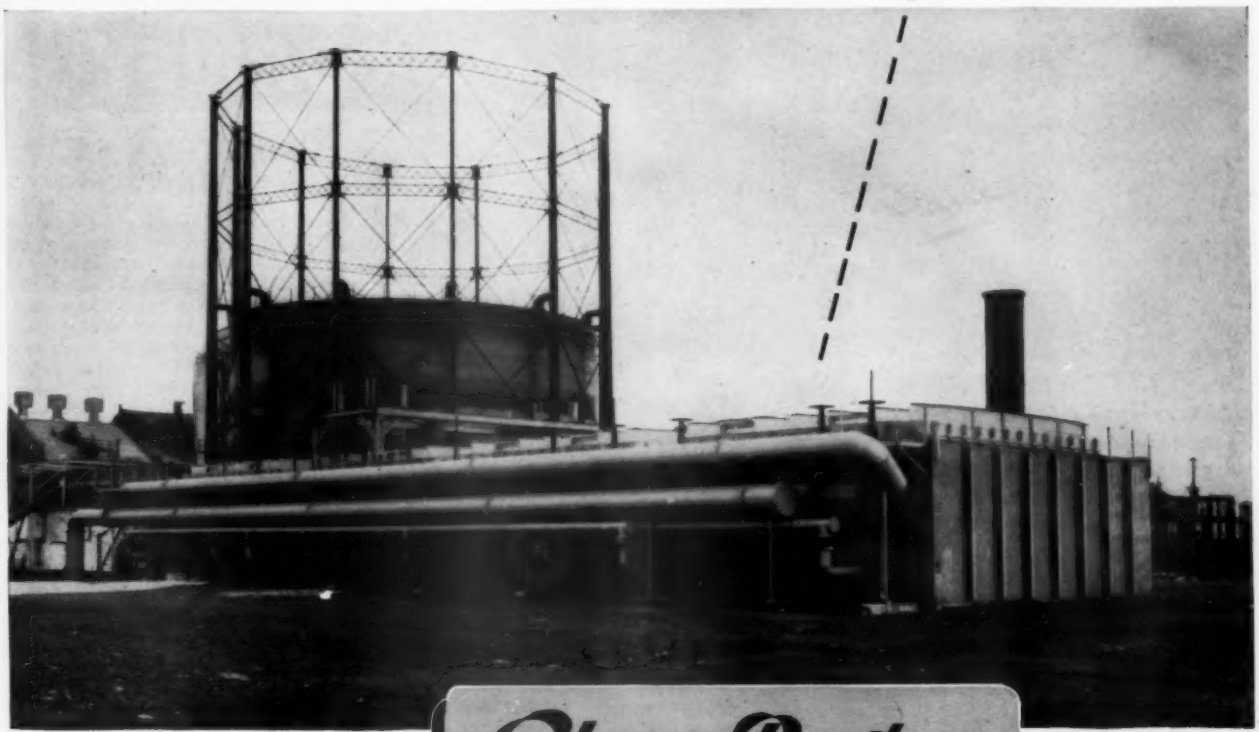

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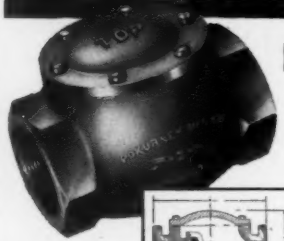

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Recent Court Decisions
Affecting Gas Utilities

Law of Interstate Gas Sales

By
Leo T. Parker
Attorney at Law
Cincinnati, Ohio

RECENTLY a reader wrote, in part, as follows: "Our company produces gas some of which is sold to purchasers and users in other states. Are we subject to regulations of the Federal Power Commission? Also, under what circumstances can a state regulate gas sales intrastate business?"

The answer to this question is important to all readers. Therefore, we shall review the law in detail.

First, it is important to know that an intrastate transaction is where gas is both sold and delivered to a purchaser within the state by a utility or municipality also within the state. In other words, the transaction must be one where the process of delivery and transportation across the state line is not continuous. Otherwise the seller may be subject to regulations of the Federal Power Commission.

For illustration, in Interstate Natural Gas Company, Inc., v. Federal Power Commission, 67 S.Ct. 1482, reported the past few weeks, the testimony showed facts, as follows: A corporation owns 110 natural gas wells and over 56,000 acres in northern Louisiana. The corporation produces gas from its own wells and also purchases gas from other producers in Louisiana. The purchased gas flows into the corporation's system and commingles with the gas it produces.

The corporation sells gas to various companies in other states. Before delivery all of the gas is passed *at well pressure* to and through compressor stations and subjected to increased pressure in order that it may be moved to distant markets in other states.

The testimony showed that the entire movement of the gas *from the wells* to the purchasers in other states to and through the compressor pumps, and across the state lines is a *continuous* process without interruption for storage, processing or for any other purpose; and all gas produced and purchased from Louisiana producers is destined for ultimate public consumption in states other than Louisiana.

The court was asked to decide whether the Federal Power Commission has power to regulate sales made in the field by the corporation to three different pipe-line companies each of which transports the purchased gas to markets outside Louisiana. Further testimony showed that the gas produced from the corporation's wells flows into its own system of field pipe lines, then moves into branch lines, then into trunk lines, and finally, into the main trunk lines from which delivery is made to the three purchasing companies outside the state.

The counsel for the gas corporation contended, first, that the sales are not "in interstate commerce," and, second the sales are a part of "production or gathering" and hence not within the Commission's power of regulation.

In this respect the Supreme Court of the United States held:

"We have no doubt that the sales are in interstate commerce. . . . The gas sold to the three pipe line companies moves . . . in a constant flow from the mouths of the wells from which it is produced through pipe lines . . . to the compressor station of the respective purchaser, and thence through said compressor stations into the pipe line of said respective purchaser and thus into and through states other than Louisiana . . . all without interruption. . . . Under the circumstances it is clear that the sales in question were quite as much in interstate commerce as they would have been had the pipes of the petitioner (corporation) crossed the state line before reaching the points of sale."

It was further contended by the counsel for the gas corporation that the interstate movement of the gas began when the gas, moving through the gas corporation's pipe line system at well pressure, was subjected to increased pressure in the compressor stations of the purchasing companies whereby the transaction was intrastate up to the compressor stations.

The higher court refused to agree with this contention, saying:

"Long before the gas reaches the compressor pumps it has been committed to its interstate journey which follows without interruption or deviation. Under such circumstances, the increase of pressure in the compressor stations must be regarded as merely an incident in the interstate commerce rather than as its origin."

The counsel for the gas corporation also argued that regardless of whether the sales to the purchasing companies outside the state are in interstate commerce, the transactions are not within control of the Federal Power Commission because of the Federal law specifically excepting from the Commission's jurisdiction regulation of "the production or gathering of natural gas."

The higher court refused to agree with this contention, and said:

"By the time the sales are consummated, nothing further in the gathering process remains to be done. We have held that these sales are in interstate commerce. It cannot be doubted that their regulation is predominately a matter of national, as contrasted to local concern. All the gas sold in these transactions . . . must be covered by rates charged subsequent purchasers of the gas including the ultimate consumer. It was to avoid such situations that the Natural Gas Act was passed."

Legal Status of Gas

Modern higher courts consistently hold that natural gas is a commodity which may be transported as an article of commerce. Hence, its transmission from one state to an-

other constitutes interstate commerce. Many and various phases of the law pertaining to interstate gas sales are discussed in cases, as follows: State v. Indiana & Ohio Oil, Gas & Mining Company, 120 Ind. 575; Commonwealth of Pennsylvania v. State of West Virginia, 262 U.S. 553; State of Missouri v. Kansas Natural Gas Company, 1924, 265 U.S. 298; and Public Utilities of Kansas v. Landon, 249 U.S. 236.

It is now well established that sales and deliveries from interstate pipe lines to local municipalities and gas companies for resale are interstate transactions. See Natural Gas Act, 15 U.S.C.A. 717(b); State Corporation Commission of Kansas v. Wichita Gas Company, 290 U.S. 561.

On the other hand, present-day higher courts realize, that when passing various statutes, Congress meant to create a comprehensive scheme for regulating the sale of gas which would be complementary to regulation of the states, without any confusion of functions. The Federal Power Commission was given power to exercise jurisdiction over matters in interstate and foreign commerce, to the extent defined in the Act. Hence, purely local matters were left to the state regulatory bodies.

Inferentially this means that those transactions over which jurisdiction was not given to the Federal Power Commission may be considered as local matters and left to the state.

Hence, the Federal Power Commission has jurisdiction- over the transportation of natural gas in interstate commerce, and the sale in interstate commerce of natural gas for resale for *ultimate* public consumption for domestic, commercial, industrial, or any other use. The states, of course, regulate sales of natural gas to small gas consumers in intrastate transactions. The states have also been able to regulate sales to small consumers even though such sales are in interstate commerce, because such sales are considered local in character.

Recently an important question was presented the court, as follows: Can a state regulate sales of gas to large industrial users when made by a corporation which operates an interstate pipe line? According to a late higher court decision, yes.

For example, see Public Service Commission v. Panhandle Eastern Pipeline Company, 71 N. E. (2d) 117, reported May, 1947. Here the testimony showed that a gas company owns a large pipe line through which it transports natural gas from Texas and Kansas into and across Indiana to Ohio and Michigan. At different points along this line, gas is diverted into branch lines, to be delivered to distribution systems owned and operated by various municipalities; to public utility corporations and to certain large industrial consumers of gas. In other words, the company operates an interstate pipe line through which it sells gas in Indiana indirectly to the public, through distributing companies, and also sells gas directly to large customers within the state. Further testimony showed that the company furnished gas in Indiana to 10 utilities, and four municipalities which distributed gas to 112,000 residential, industrial and commercial consumers in Indiana.

Anchor-Hocking was the only industrial consumer in Indiana served directly by the gas company. The quantity sold to Anchor-Hocking is many times the quantity sold to some utilities and municipalities. The question presented the court was: Can the state in which this interstate gas company intended selling gas directly to large consumers regulate and control the gas company? The higher court held in the affirmative, and said:

"Its (gas company's) rights and duties, with reference to direct sales, must be determined in the light of its over-all character in the State of Indiana. It will compete with local activities in soliciting industrial business and will be in position to discriminate in its service and in its rates and in its regulations. This freedom is inconsistent with all concepts of the duties and obligations of a person or corporation engaged in such business."

Also, see Industrial Gas Company v. Public Utilities Commission, 135 Ohio St. 408. Here the court was asked to decide whether a gas company, which transacts interstate business and sells gas to consumers, within a state is subject to regulation by the State's Public Service Commission. This court said:

"It may well be urged that a corporation, calculated to compete with public utilities and take away business from them, should be under like regulatory restriction if effective governmental supervision is to be maintianed. Actual or potential competition with other corporations whose business is clothed with a public interest is a factor to be considered; otherwise corporations could be organized to operate like appellant and in competition with bona fide utilities until the whole state would be honey-combed with them and public regulation would become a sham and delusion."

For comparison, see Potter Development Company, 32 P.U.R., N. S. 45. In that case, the Potter Company sold natural gas to the Corning Glass Works. The Potter Company obtained its gas from an interstate transmission line and piped it to the Corning Glass Works, which is located in the City of Corning, New York. The Glass Works was the *only* customer served by the Potter Company, but the interstate pipe line also furnished gas to an affiliate which, as a public utility, operated the gas distribution system in the City of Corning.

The Public Service Commission was asked to determine whether the Potter Company was a public utility

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subject to regulation by the New York Public Service Commission. The Commission held that it was, and, in support of its holding, argued that to hold otherwise would invite widespread circumvention of the Public Service law and would result in a multitude of companies supplying gas under special contracts in competition with public utilities, and indicated that such a situation would be intolerable.

Also, see Arkansas-Louisiana Electric Co-operative v. Arkansas, 194 S. W. (2d) 673. This court held:

"A foreign corporation admitted to do business in the state is subject to same regulations as like domestic corporations, and may exercise no greater powers than may be exercised by like domestic corporations."

Franchise Tax

Considerable discussion has arisen from time to time over the legal question: Is a franchise tax sought to be collected by a state from a foreign gas corporation, doing business within the state, void because it interferes with interstate commerce?

According to a recent higher court a state franchise tax imposed upon a gas corporation doing business within the state does *not* tax interstate commerce. In other words, modern courts hold that a franchise tax is a recompense for protection of lawful activities carried on within its borders by a gas corporation, whether foreign or domestic.

For instance, in Stone v. Memphis Natural Gas Company, 29 So. (2d) 268, the testimony showed facts, as follows: A state imposed a franchise tax upon a foreign gas corporation which does no intrastate business other than maintenance, supervision, and repair of 135 miles of gas pipe line. The tax was approximately $3,400 per annum.

In holding the tax valid, the higher court said:

"The franchise tax here sought to be collected by the state is not a tax upon 'doing business' as that term is ordinarily understood in the purely commercial sense. . . . There is no attempt to tax interstate commerce, but the levy is an exaction which the state requires as a recompense for its protection of lawful activities carried on in this state by the corporation."

Since it is quite apparent that although a particular activity of a business may be essential to the continued full and unimpeded flow of commerce between the states, yet if that activity is one which actually and distinctly *happens* in the particular state, the transactions are intrastate.

Also, see Arkansas Louisiana Gas Company v. Hardin, 176 S. W. (2d) 903. Here it was disclosed that a gas company in Arkansas purchased gas from outside the state. The gas was transported through a pipe line in a continuous stream into the state, and to industrial customers. The higher court held the gas company liable for payment of state sales taxes, and said:

"The sales made by appellant (gas company) to its industrial customers were not transactions in interstate commerce, and were such sales as were subject to the payment of the two percent Arkansas sales tax."

Jayne Honored for Safety Work

Howard T. Jayne, Safety Engineer of The Philadelphia Gas Works Company, has been honored for his contributions to utility safety development during his two-year term as Chairman of the Accident Prevention Committee of the American Gas Association. The committee unanimously adopted a resolution citing Mr. Jayne's leadership "through an era during which effective aids for accident prevention were developed."

Appreciation was expressed to Mr. Jayne for "his understanding of the job, his grasp of the problem, and his personal sacrifices which resulted in many outstanding contributions as the principal safety leader of the gas industry."

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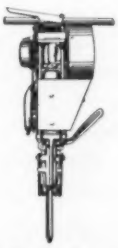

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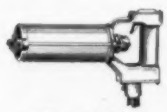

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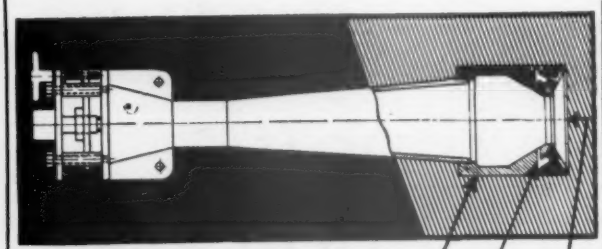

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"AIROCOOL" Nozzles are made exclusively by us. They are stocked for standard pipe thread sizes 4, 5, 6 and 8 inch for various makes of inspirators. Ask for Supplement 3 to Bulletin 55 . . . it gives detailed information.

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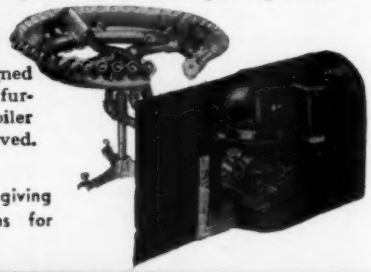
MODEL P-ZE

shown here is designed for use in warm air furnaces or round type boiler where grates are removed.



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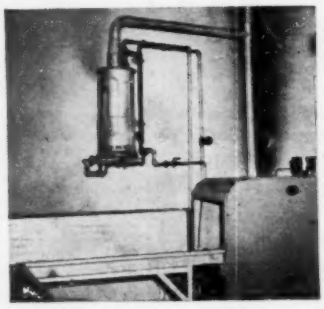
AN ACTUAL INSTALLATION OF THE ONLY THERMOSTATIC-INSTANTANEOUS GAS WATER HEATER



This installation has been operating for the past several years in the large cafeteria of the High School at Orange, Texas. This No. 3 HOTOMATIC is boosting 140° temperature water from a storage tank up to 180 degrees at a rate of about 4 gallons per minute for a large Hobart Dishwasher. Many State Health Departments are requiring 180° sanitary water for Cafes and Cafeterias. Any number of HOTOMATICS can be hooked together to supply large quantities of hot water.

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Annual Meeting, New England Gas Association

THE annual meeting of the New England Gas Assn. was held in Boston, Mass. March 18-19.

After the Election of officers and directors for the ensuing year, Clark Belden, Executive Secretary, presented a report of the activities of the five divisions of the association during the past year.

"Tomorrow's Sales Opportunities" was the subject discussed by H. H. Cuthrell, Vice President, Brooklyn Union Gas Co. He reviewed the competition of other fuels and stressed the need of a trained sales force.

"If you are prepared to worry on a large scale," he said, "you need merely recall the predictions you yourself have undoubtedly read as to the plans of others who want a major share of the market. You can include in these 'snatchers at the customer's dollar' the automobile salesmen, the builders of new homes, the suppliers of home furnishings or the manufacturers of women's clothing who in one fell swoop obsoleted all women's clothing in order that they might get a major share of family savings. Add also the makers of automatic washing machines and other household appliances and consider too the lure of a long-postponed vacation to faraway and interesting places plus the inevitable urge to keep some money for savings as a nest egg against the future.

"We are definitely headed for a buyers' market in home appliances. It's already here in radios, expensive suits, fur coats, gas storage water heaters and in other items. Though some people seem to feel that this will mean the end of prosperity I thoroughly disagree with such thinking. It does present us, however, with our biggest challenge.

"Are we men enough to realize the importance and the immediate need for salesmanship? If we are, can we say that our sales forces are adequate and well trained? If we can say "Yes" to this, we can meet the challenge without fear.

"We don't need to find out how *big* the market is, nor do we need to worry about how much of that market our competition plans to take away from us. We *do* need to set our sights on the job as we see it. By planning our campaigns as an industry, by integrating our efforts, by

1948-49 NEW ENGLAND GAS ASSOCIATION OFFICERS

Front Row (l. to r.)—Edward G. Twohey, Incoming President (Vice President, Worcester County Electric Co.); James A. Cook, Retiring President (Vice President and General Manager, Lynn Gas & Electric Co.); A. V. S. Lindsley, 1st Vice President (Vice President, The Connecticut Light & Power Co., Waterbury)

Rear Row (l. to r.)—Clark Belden, Clerk (Executive Secretary); Otto Price, Treasurer (Vice President, Boston Consolidated Gas Co.); John A. Hiller, 2nd Vice President (Sales Manager, Portland Gas Light Co.); E. Clyde McGraw, Chairman, Program Committee (Vice President, Stone & Webster Service Corp.)

Officers and Board of Directors 1948-49

President — Edward G. Twohey, vice president, Worcester County Electric Co., *1st Vice President*—A. V. S. Lindsley, vice president, The Connecticut Light & Power Co., Waterbury.

2nd Vice President—John A. Hiller, sales manager, Portland Gas Light Co.

Treasurer—Otto Price, vice president, Boston Consolidated Gas Co., *Clerk*—Clark Belden, executive secretary, The New England Gas Association.

Elective Directors—Peter A. Anderson, president, Utilities Distributors, Inc., Portland; Paul R. Buchanan, vice president and general manager, The Hartford Gas Co.; Floyd D. Campbell, president and general manager, New England Gas & Electric Assn., Cambridge; Thomas G. Dignan, president, Malden and Melrose Gas Light Co.; Earl H. Eacker, vice president, Boston Consolidated Gas Co.; Fred H. Faulstitch, assistant manager, Springfield Gas Light Co.; Hall M. Henry, director of gas operations, NEGEA Service Corp., Cambridge; Gordon G. Howie, vice president and general manager, Cambridge Gas Light Co.; Malcolm Leach, president, Glenwood Range Co., Taunton; Ronald A. Malony, assistant to the president, The Bridgeport Gas Light Co.; A. D. Matarese, vice president, Brockton Gas Light Co.; E. Clyde McGraw, vice president, Stone & Webster Service Corp., Boston; Raymond L. Presbrey, vice president, Boston Consolidated Gas Co.; A. H. Scott, president, New Britain Gas Light Co.; Robert D. Stuart, Jr., general merchandising manager, Blackstone Valley Gas & Electric Co., Pawtucket; William Webster, vice president, New England Electric System, Boston; Alexander McW. Wolfe, manager, Nathaniel Tufts Meter Works, American Meter Co., Boston.

taking advantage of our opportunities, and by making our selling really effective, we can prove that the market is what we make it.

"I am not unmindful of the difficulties that plague our industry but I feel that considering the calibre of you men who direct it, these difficulties are temporary. In our industry we have the brains to do a job, we have the determination to achieve our objectives, we have the ability to outsell our competition—what we need now is the realization that the time to pitch in is *now*."

James A. Cook, Retiring President of the Association, outlined the progress made during the past year and in conclusion stated:

"As any President views our Association, he sees at close range the cooperative working of many different units and he is impressed with the great value of that which can be accomplished by people pulling together for common purposes. Without all of you, little would be possible. With your help, everything is possible."

Col. Hudson W. Reed, President, A. G. A. outlined many of the activities of the associations going on at present, and said:

"What really counts is that the activities of the Association are directed not by a few elected officers or by the 4,671 individual members sitting in general session, but by 2,266 volunteer members serving on approximately 196 separate committees reporting more or less directly to your Executive Board.

"The members of the committees are from all sections of the country; it is often a real effort for many of them to attend the scheduled meetings. I cannot pay too high a tribute to these committeemen who have given so unselfishly of their time and their efforts. It is mainly due to their work that the great degree of success has been achieved in improving the high standard of service rendered to the public."

Hall M. Henry, Director of Gas Operations, NEGEA Service Corp., Cambridge, Mass., where a high B. T. U. gas making installation was put in operation last fall, outlined the production problems involved, utilization developments, and the benefits and disadvantages. He stated that the company will issue a complete report in the near future.

Charles G. Young, Vice President, Springfield Gas Light Co., outlined the background of various pipeline proposals to bring natural gas into New England.

If and when natural gas comes to New England, E. D. Anderson, Vice President, Northern Indiana Public Service Co., Hammond, Ind. gave the New England gas company executives an idea of what they would have to do in a change over to natural gas, by giving a complete outline of the change over procedure at Ft. Wayne, Ind. a few years ago.

R. E. Kruger, General Superintendent of Gas Operations, Rochester Gas & Elec. Co., described in detail his company's methods of using natural gas with coke-oven gas, producer gas and blue gas to increase manufactured gas plant capacity. Mr. Kruger's paper will be printed in full in a later issue of the Journal.

John A. Robertshaw, President, Robertshaw-Fulton Controls Co. and President G. A. M. A., described the material procurement problems of the manufacturers, and stated that "since the gas industry is a major part of the fuel industry, it should be given special attention in the allocation of steel for manufacturing,

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It's the choice of the gas industry! For economy, efficiency, for really thorough gas purification, Iron Sponge is a material you can depend upon. Here are the advantages that have made Iron Sponge so popular for over 73 years.
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Connelly engineers and facilities are at your service. If you have a gas-purification problem, consult Connelly.
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A simple, inexpensive instrument for continuous direct readings and BTU control applied to manufactured, natural, propane, and butane air gas.
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A patented device for quick, accurate tests using pre-treated paper discs.
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A complete simple outfit for making pH determinations. Includes universal indicator solution, test tubes, color chart and full directions. Handy 3" x 5" pocket carrying case.
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producing, transmitting, and distributing of manufactured, natural, mixed, and liquefied petroleum gases.

"Why is such attention justified? Because the gas industry has a responsibility for the health and comfort of the more than 100,000,000 people which it serves in the United States. This is a grave responsibility for the public welfare, and the allocation of steel to the gas industry should be second only to food. This should include steel in all categories: steel for the equipment manufacturers, steel for pipe line companies, steel for producers of home appliances. Steel should similarly be made available for all service pipe requirements as well as for holders, scrubbers, and water gas sets. This action would not constitute preferential treatment because it would be helping to bring the greatest good to the greatest number of people. It would be an effective and common-sense means of allowing the gas industry to expand its facilities to meet the growing—the overwhelming—demand from the public for service."

Wm. J. Foster, Vice-President, Geo. D. Roper Corp., Rockford, Ill., complimented the members on their "teamwork selling." But he pointed out that teamwork, *plus* ingenuity, *plus* promotion of quality appliance, are necessary to keep the sales record on as high a plane as it is today.

In elaborating his teamwork theme, Mr. Foster said, "Your work is the same as any competitive game where one team plays another to win and reminds me of a personal experience.

"At the University of Pittsburgh some 30 years ago, I was the manager of the Pitt Football Team and in those days we really had a football team—not a track team dressed up in football suits.

"Pop Warner would call us all together, explain patiently that the *total* success of the team was the all-important objective, but that every player had to carry out properly his assignments to help win the game.

"His reminders that the players were a team, and *not* individual players, always got results. In single and double wing formations, there were only two boys who could carry the ball. But what was the difference? It was the whole Pittsburgh team which finally came through with national ratings, not individual players as such.

" 'Pop' Warner's ideas and coaching on team play—one for the good of all, is just as sound for a business organization as for a football team.

"Now all of us can't be ball carriers, but we can do our part to bring our team the winning sales points.

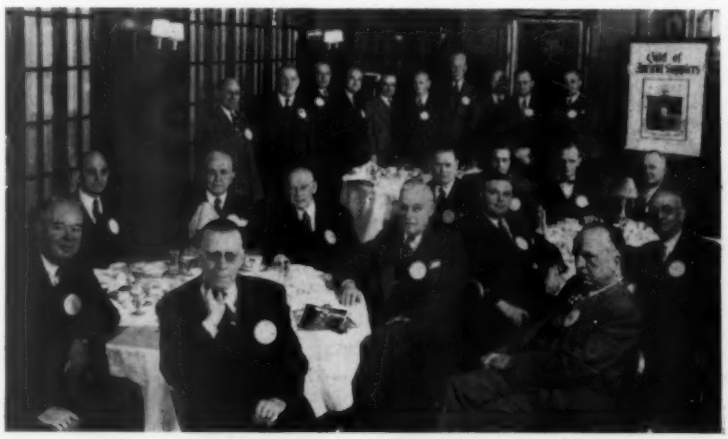
"We must select our salesmen *now*, train them, modernize our displays, advertise our products and promote *and* promote, and sell the *quality* of automatic ranges, refrigerators and water heaters."

Other papers presented were "Accounting as an Integral Part of Management", W. Arnold Hosmer, Professor of Accounting, Harvard Graduate School of Business Administration; "The Economics Outlook", Joseph L. Snider, Harvard Graduate School; "Labor and Management As I See Them Today", Douglass V. Brown, Professor of Industrial Management, M. I. T.; "Fuels of The Future", Lyon F. Terry, Second Vice President, The Chase National Bank, New York; "Administrative Commissions in Retrospect and in Prospect", Clyde O. Ruggles, Professor of Public Utility Management, Harvard Graduate School of Business Administration.

The Home Service Group held a luncheon Friday noon, Margot J. Whitmire presiding, Home Service Director, Springfield Gas Light Co.; William E. Brogue, Editor, Servel Commercial Cooking Publications, addressed the guests on the subject "Gas Abuses".

The Tufts Meter Co., Boston, New England branch of the American Meter Co, was host at a social gathering on Wednesday evening, preceding the Directors Dinner. The registrations at the meeting were approximately 600.

SUPPLER BREAKFAST IN CONNECTION WITH NEW ENGLAND GAS ASSOCIATION MEETING — MORNING OF MARCH 18, 1948



The following were in attendance: Warden Russell B. Wright, Mayor Joe A. Mulcare, Aldermen J. A. Messenger and George Velte.

Supplers Tom Gilbert, Tom Downs, John Eigenbrot, Homer Dufault, Jim Gibbons, Norton McKean, Carl Schlegel, S. G. Krake, Ward Cheeseman, Bud Ackerman, Harry Grassmann, A. F. Jenkins, Dave Meyers, Bill Foster, F. C. Arens, Bob Gilmore and George Steere.

The Mayor presented Supplers Ralph E. Daniels and Kress Ludlow who were attending their first Gild Breakfast.

Steam Jacketed Cookers. Gas fired full steam jacketed cookers, 20 to 100 gal. capacity are shown in folder of Royce L. Parker, Inc., 302 Addison Road, Addison, Ill. Details of construction and service are given.

Natural Gas Output in Canada

Canadian output of natural gas totaled 55,414,610,000 cubic feet in 1947, or 15.7 per cent higher than the 47,900,484,000 produced in 1946, the Statistics Bureau has reported.

Eastern Natural Gas Regional Sales Conference Presents Excellent Program

COMPLACENCY can prove to be one of the greatest foes of the gas industry, H. Carl Wolf, Managing Director of the American Gas Association told 300 sales executives and representatives gathered at the Eastern Natural Gas Regional Sales Conference at Hotel Wiliam Penn, Pittsburgh, March 10th. and 11th. Planned selling is the answer to many of the industry's problems, he said. For successful selling Mr. Wolf recommended a simple prescription which he labeled The Three P Prescription—*Plan—Pick—Push*. Planning a sales campaign; picking salesmen carefully and pushing these men and the use of modern, automatic appliances would restore any ailing utility company to robust health, Mr. Wolf prescribed.

Water Heating

Pointing out that there had been no radical change in designs in water heaters in the past decade, W. D. Williams, Public Service Electric & Gas Company, Newark, and Chairman, A. G. A. Water Heating Committee, said that advancement had been made in the usage of gas water heaters rather than in the product itself. Whereas a constant supply of hot water was considered a luxury ten years ago, with automatic washers, dishwashers and the increased use of water for health and sanitation, the 20 gallon heater is practically outmoded today. Sizing of water heaters should be regarded in the light of ten years ahead, Mr. Williams said. He advocated better education of housewives on the control of water temperature achieved with gas as a fuel and recommended that thermostats for water heaters be placed in the living room or kitchen of homes. The controls for house-heating and modern cookery are placed at the convenience of the user, he said, and water heating temperature controls should be just as available for the use of the consumer.

Ranges

Harold Jalass, General Sales Manager, Cribben & Sexton Company told the conference there is no real consumer resistance to modern, automatic gas ranges. What is needed, he said, is a better understanding of our product, gas, with its flexibility and qualities of speed, cleanliness and convenience. A new group of appliance salesmen has evolved in department stores, appliance stores and dealer organizations, and this group must be educated and shown that point by point, the automatic gas range has everything today's customers want.

Because of its lack of direct contact with its customers, the gas utility industry may be missing many opportunities for increasing its stature in public opinion, Joseph Bevis, Opinion Research Corporation, suggested. Because these utilities render excellent service there is little opportunity to meet customers face-to-face. No industry can grow and prosper over the long run without public understanding and active good will. He said a gas utility being vulnerable because it was a public utility must not only sell its product but also must sell its leadership in the community it serves.

Markets

John T. Knighton, Servel, Inc. in a brief discussion substituted for the scheduled Servel skit, stressed the necessity for planned selling of gas and gas appliances. In some areas the transition from a buyer's to a seller's market already has taken place. A slump may arrive unawares when national buying interest declines unless management has planned for such a transition, he said.

Home Service

Miss Irene L. Muntz, Rochester Gas & Electric Corporation, presented an interesting paper on new activities being developed in Home Service Departments to meet the needs of consumers. An interesting presentation of selling techniques and efficiency was made by Assistant Professor J. H. Davis and three graduate members of the Business Organization Department of Ohio State University. Working from a time study made of salesmen's calls, the group was able to point out many short-cuts that could be effected through proper planning in advance, not only of such calls, but in actual presentation of products to be sold.

The Dealer

The dealer's viewpoint and position in the merchandising plans of gas utility and gas appliance companies was ably presented by Bernie A. Seiple, who explained he was well qualified with 28 years background on the utility side of the desk and nearly three years experience as an appliance dealer. Outlining the essentials necessary for a successful dealer cooperation plan, Mr. Seiple declared that dealers should be thoroughly educated, not only in requirements, servicing needs, prices and qualities of the appliance he sells, but that he should understand the utility's rates and how they are applicable to gas appliances and the advantages of gas as a fuel over competitive fuels.

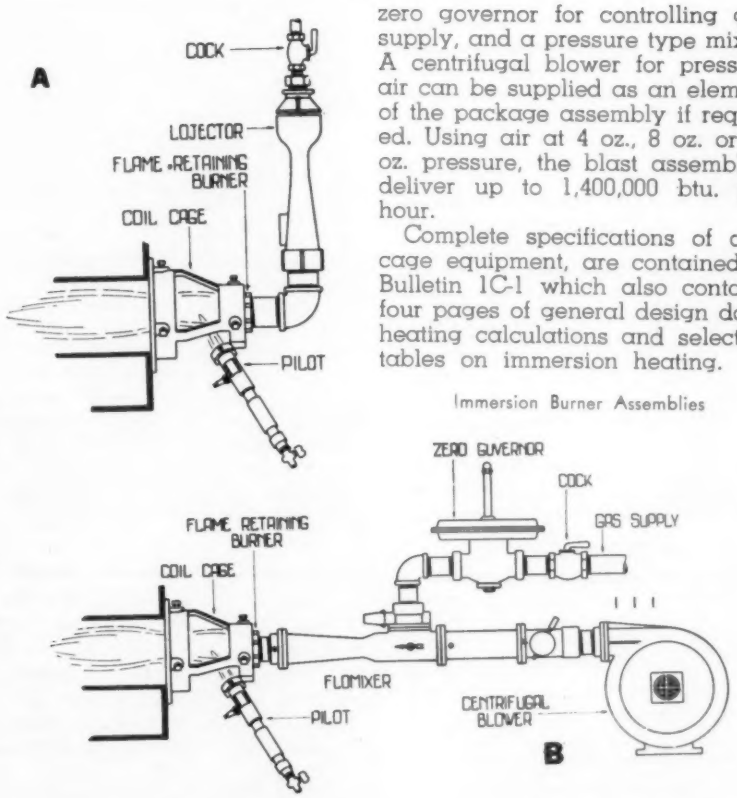
Irving K. Peck
Conference Chairman

New Appliance

Opportunities for increasing base loads of utility companies through merchandising of newer appliances such as gas incinerators and gas laundry dryers were presented by R. J. Miller, The Ohio Fuel Gas Company. Mr. Miller discussed the sales methods used by his company in their successful merchandising of these and other gas appliances.

Leadership at the sessions was on a par with the programs presented. Irving K. Peck, Vice President, Manufacturers Light & Heat Company, acted as Chairman of the Conference and presided at the first morning session. George L. Scofield, Republic Light, Heat & Power Company, Buffalo, was chairman of the afternoon session Wednesday. Raymond Little, Sales Manager, Equitable Gas Company, Pittsburgh, led the opening session Thursday, with H. Leigh Whitelaw, Managing Director, Gas Appliance Manufacturers Association as chairman at the afternoon session on Thursday. Thirty manufacturer members of G.A.M.A. served as hosts at the Friendship Room get-togethers after each of the afternoon meetings.

New Equipment and Appliances



Immersion Burner Assemblies

Gas Burner Units for Immersion Heating

Newly-engineered immersion heating burner assemblies are announced by the Industrial Division of Bryant Heater Company, Cleveland, Ohio.

The assemblies involve scientifically-designed spacer cages which insure the entrainment of the required amounts of secondary combustion air in gas-firing immersed tubes for heating water, oils and other liquid solutions.

The "Coil Cages" are furnished separately, or in ready-for-installation assemblies, complete with mixers and associated equipment.

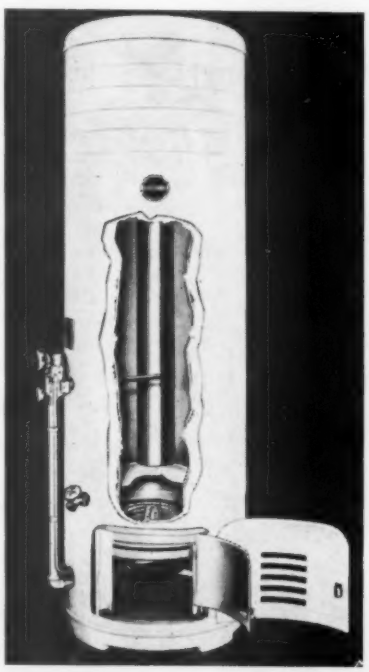
The atmospheric type "Coil Cage" burner (A) comprises a gas cock, low pressure injector, flame-retaining burner nozzle, and coil cage with pilot. Usable with gases having btu. contents of from 450 to 3200 but., at pressures from 3" WC to 12", the atmospheric burners are rated from 27,500 to 350,000 btu. per hour. Coil pipe sizes from 1½" D. to 6" D. are accommodated.

The blast type "Coil Cage" assemblies (B) permit higher capacities by utilizing combustion air under pressure. These units involve a zero governor for controlling gas supply, and a pressure type mixer. A centrifugal blower for pressure air can be supplied as an element of the package assembly if required. Using air at 4 oz., 8 oz. or 16 oz. pressure, the blast assemblies deliver up to 1,400,000 btu. per hour.

Complete specifications of coil-cage equipment, are contained in Bulletin 1C-1 which also contains four pages of general design data, heating calculations and selection tables on immersion heating.

New Gas Water Heater

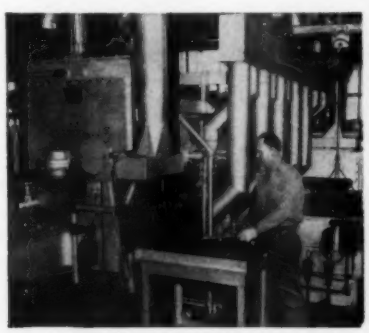
Construction features of the Duo-Therm gas water heater are shown in this cutaway view. Included are the new, exclusive Duo-Therm Equaflame burner, so-called because it maintains equal gas pressure at all burner ports; the off-center flue for providing increased heat travel, thereby utilizing more heat units; the extra-heavy 1½" layer of spun-glass insulation which completely surrounds the boiler; the special inner door to burner compartment which acts as an air meter and also as a baffle for heat retention within combustion chamber; the special double base which provides insulated support and permits installation on any type of floor; Grayson-Robertshaw "Unitrol" can be used with all types of gas including L.P. Three sizes available, have A.G.A. approval. Made by Duo-Therm Division, Motor Wheel Corporation, Lansing, Mich.



Duo-Therm Water Heater

Gas Fired Furnaces

Gas fired furnaces for annealing, carburizing, drawing, hardening, spheroidizing, malleablizing, normalizing, and dry cyaniding are now available from Westinghouse Electric Corporation. These will be designed for use with separately prepared protective atmospheres such as Exogas, Endogas, Monogas and Ammogas.



Pusher type gas fired furnace.

The addition of gas fired furnaces will also permit the inclusion of furnace equipment for such specific heat treating applications as gas carburizing, and dry cyaniding. Among types available are:

Cylindrical Bell, continuous pusher, continuous roller hearth and continuous conveyor furnaces.

Further information from Westinghouse Electric Corporation, Box 868, Pittsburgh 30, Pa.

Federal Power Commission

Texas Gas Transmission Merger is Approved

The Federal Power Commission has approved the application by Memphis Natural Gas Company, Kentucky Natural Gas Corp., and Texas Gas Transmission Corporation for a merger to form one operating company to be known as Texas Gas Transmission Corporation.

It will open the way for extensive natural gas developments by Texas Gas Transmission Corporation that will be of great benefit to persons living in cities and towns in a wide area.

W. T. Stevenson, Executive Vice President of Texas Gas Transmission and of Kentucky Natural Gas, explains the significance of the merger and states what he hopes it will mean for the future. His statement, made from his office in Owensboro, Kentucky, is as follows:

"The merger of Memphis Natural Gas Company and Kentucky Natural Gas with Texas Gas Transmission Corporation is the first big step in our effort to pipe enough natural gas from new Texas fields to beat future fuel shortages similar to the one that has caused so much hardship in this region this winter.

"By approving the consolidation of these three companies, the FPC has recognized the logic of setting up a single natural gas operating company capable of taking bold action to combat this region's shortages of gas fuel.

"Texas Gas Transmission will now appeal to the Federal Power Commission for permission to build a natural gas pipeline from Texas to a point near Middletown, Ohio. This line will connect with the present Memphis and Kentucky pipe systems to pump into existing lines a continuous flow of gas for heating, cooking and manufacturing.

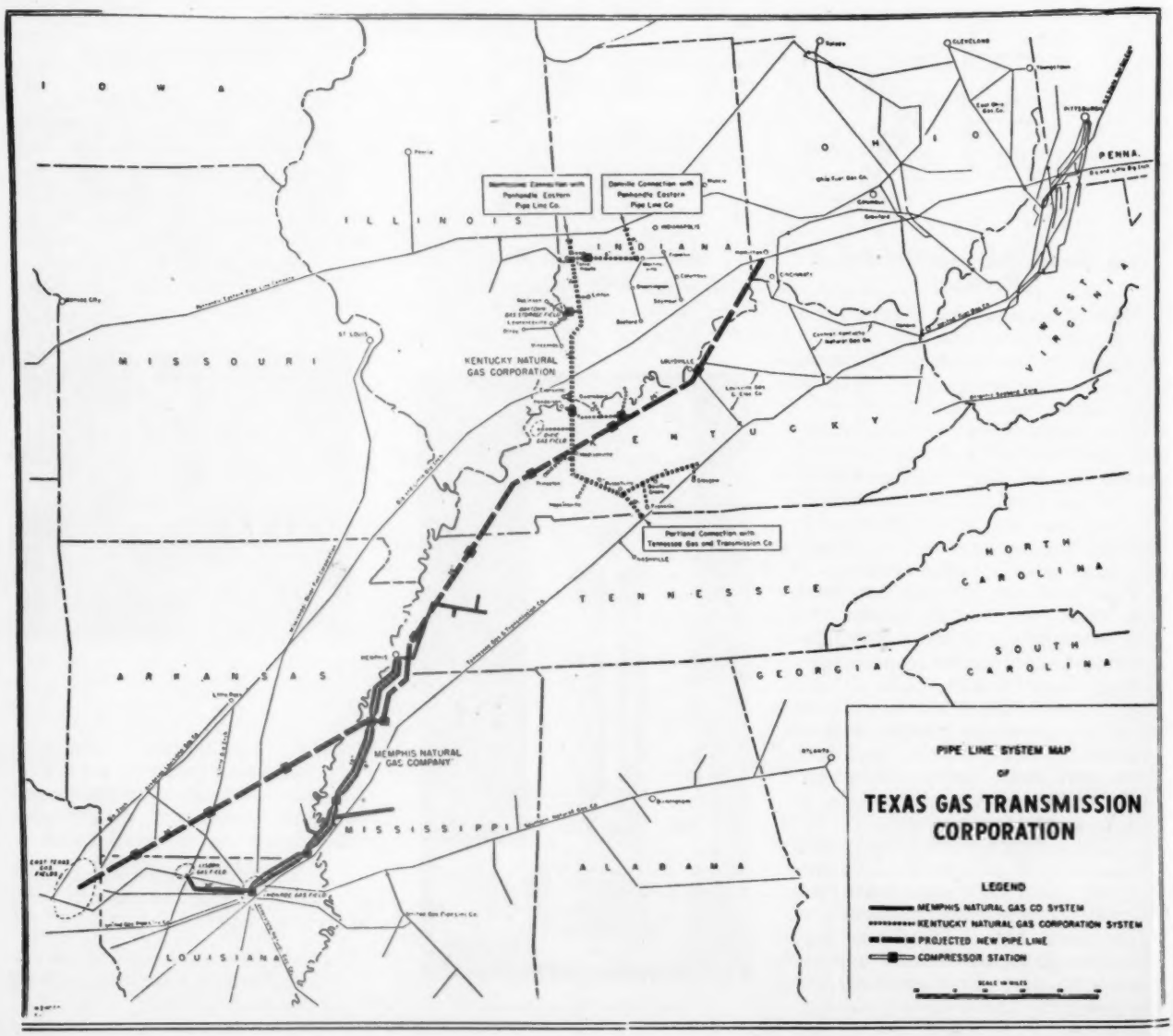
"The line will run directly into the City of Memphis, thus bringing to the city's residents a gas supply directly from Texas, in addition to the fuel supplied by the full capacity of our present Memphis Natural Gas Company system.

"We also look forward to the prospect of meeting the problem of severe gas shortages that have hampered the Kentucky system this past winter, by introducing a continuous flow of natural gas from new sources in Texas.

"The new line will not only serve the present Memphis and Kentucky systems but will also carry gas to Louisville, Kentucky, and to areas further east where the shortage of natural gas has caused exceptional hardship.

"Construction of the new pipeline would cost about $60,000,000. However, under the consolidation, Texas Gas Transmission is a company with enough resources, and with a large enough market, to undertake such as extensive construction program."

The company now plans to complete and file an application for a Certificate of Public Convenience and Necessity to build the new pipeline with the Federal Power Commission within the next 60 days. The adjoining map shows the projected line.



El Paso Natural Gas Company

The El Paso Natural Gas Company has filed an amended application with the Federal Power Commission for a certificate of public convenience and necessity authorizing construction and operation of a $81,101,200 project designed to make an additional 300,000,000 cubic feet of natural gas a day available to companies distributing and selling natural gas in California including San Francisco, Oakland, Berkeley and other communities.

The company proposed to commence construction as soon as a certificate is granted and to complete such construction in time to commence deliveries of gas through the system by November 15, 1950 and in any event not later than January 1, 1951.

El Paso Natural was granted a certificate by the Commission in 1946 authorizing construction of a project intended to make possible deliveries totaling 305,000,000 cubic feet of natural gas a day to California distributors. The amended application proposes construction of a series of 26-inch loops paralleling portions of the existing 26-inch line extending from Lea County, New Mexico to a terminus near Blythe, California. This looping will be approximately 601 miles long and will increase the capacity of the line from Lea County by 200,000,000 cubic feet a day. In addition the company proposed to construct a second 26-inch line extending approximately 470 miles from San Juan County, New Mexico to the vicinity of Needles, California. This line would have an initial capacity of 100,000,000 cubic feet of gas a day and would be connected with the existing 26-inch line by a 24-inch cross-over line beginning about 45 miles east of Blythe. The cross-over line would be about 96 miles long and would have an initial capacity of 200,000,000 cubic feet of gas daily.

The company states that it has estimated that there will be a shortage of natural gas available to the distributing companies by January 1, 1951 of approximately 300,000,000 cubic feet per day. Although this demand for gas is now being met by gas produced in California, the company estimates that these sources will have so declined by January, 1951 that unless this additional supply is brought into the state, the service of gas would have to be curtailed by the amount of the shortages indicated.

Texas Eastern Transmission Increases Gas Delivery

Texas Eastern Transmission Corporation spent $4,900,000 during its first eight months of operation to increase its daily delivery rate of natural gas through its Big Inch and Little Big Inch pipe lines from 140,000,000 cubic feet a day to 235,000,000 cubic feet a day, it was reported in a letter to stockholders from George R. Brown, chairman of the board, and R. H. Hargrove, company president.

The Company plans to spend an additional $20,100,000 for construction to reach a daily delivery rate of 433,000,000 cubic feet a day to ten utility companies serving communities in Ohio, Pennsylvania, West Virginia and Indiana, according to the letter which accompanied the Company's first Annual Report to its 12,000 stockholders. Texas Eastern plans to rush this authorized construction program so that, if possible, its delivery goal of 433,000,000 cubic feet per day may be reached by this coming fall before cold weather brings another fuel shortage, the latter stated.

During 1947, the Company added two reciprocating and three centrifugal compressor stations on the Inch lines, and ended the year with one reciprocating and four centrifugal stations under construction. Texas Eastern introduced the new centrifugal type compressor for the first time for long-range pipe line transmission under high pressures. By introducing this new engineering development, the Company was able to speed up its construction program and save considerable in construction costs.

Texas Eastern has filed an application with the Federal Power Commission for permission to install 114,000 new horsepower in compressor stations on the Inch lines in order to increase delivery capacity from the present goal of 433,000 MCF a day to 508,000 MCF.

The additional natural gas above 433 million cubic feet a day would be delivered to the East Ohio Gas Company, the Peoples' Natural Gas Company, and the New York State Natural Gas Company under options in an agreement of March 26, 1947.

New Mains and Services for So. Calif. Gas Co.

Southern California Gas Company of Los Angeles broke all previous company records in respect to laying pipe for gas services and distribution mains in 1947.

A report prepared by Elting Henderson, supervisor of the Distribution Department, discloses that a total of 2,158,856 feet of 2-, 3- and 4-inch pipe was installed for mains to supply new business, plus 312,245 feet of the same sizes as replacement.

The report revealed that 55,666 new services were installed in 1947 to supply the record number of new homes and business buildings erected in Southern California. With 70 feet of pipe used for each service the total pipe footage amounted to 3,896,620 feet in 1947, as compared with 33,709 new services and 1,227,412 feet of main extensions in 1946. In 1947 the firm also installed 762,370 feet of pipe in the replacement of 10,909 services.

Central Transmission Dept. of Southern Cal. Gas Co.

Grove Lawrence, who served as manager of the Southern California Gas Company's Butadiene plant until its recent closing, effective March 1 took over as manager of the firm's newly created Central Transmission Department.

Lawrence's wartime career as director of Butadiene operations terminated in mid-February when the plant was closed on orders of the Rubber Reserve Corporation and its machinery and equipment placed in stand-by condition for extended non-use.

The company's new Central Transmission Department, according to Vice-President William Moeller, Jr., in addition to taking over the functions of the discontinued Compression and Storage Department, will operate the transmission, compression and storage facilities within the central division. It will have responsibility for the delivery of gas to the Distribution Department at various points within the central division, handle gas in and out of storage holders, and also operate the Playa del Rey underground storage project.

Frank J. Whelan Elected Worthington Vice President

The Board of Directors of Worthington Pump and Machinery Corporation at its meeting on February 18, 1948, elected Mr. Frank J. Whelan a vice-president of the Corporation, with headquarters at Harrison, New Jersey.

Frank J. Whelan

Mr. Whelan will be in charge of the industrial and oil field merchandising activities of the Corporation. He will be responsible for the sale of Worthington products through industrial and automotive dealers, the sale of power-transmission equipment, and sales to other manufacturers of equipment incorporating Worthington products.

He has been with the Worthington Corporation for the past 14 years in various capacities, and following a year's leave of absence with the War Production Board in Washington, he has been, since 1943, Assistant to the Vice-President, as well as Manager of the Corporation's Reciprocating Pump Division.

Mr. Whelan is active in the affairs of the Hydraulic Institute having recently been elected president. He will be succeeded as Manager of the Reciprocating Pump Division by Mr. Alvin F. Welsh, now engineer in that division.

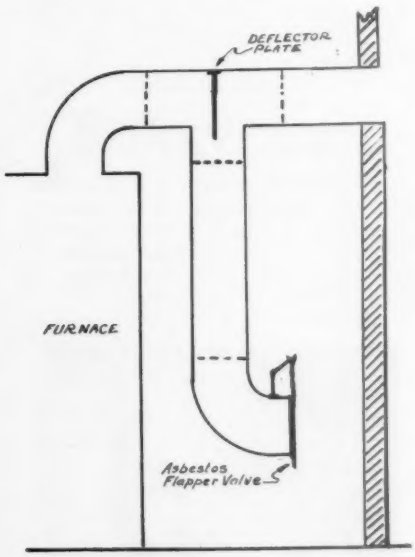
Correspondence

Flapper-Valve Replaces Down-draft Hood

Editor of AMERICAN GAS JOURNAL

Dear Sir:

Many Gas Companies have been experiencing much trouble and expense due to condensation and damage to chimneys where gas is used as a fuel in furnaces for heating.



We experienced the same trouble, and plenty of it, until I decided to eliminate down-draft hoods. Where down-draft hoods are used, they allow the cool air to enter and mix with the flue gases, cooling same quickly, and thus forming condensation. In removing down-draft hoods, there must be another means of taking care of down-drafts. I am, therefore, submitting a sketch showing how I have accomplished this.

Remove the down-draft hood, and all other means of allowing cool air to enter chimney. Connect heating furnace direct to chimney with full-size flue pipe, installing tee in same between furnace and chimney. Place a deflector plate in tee as shown in sketch; this will deflect back drafts downward. Drop down straight from tee about 24"; place an elbow on bottom of same. Attach a brace on elbow to support an asbestos mat which is held in place by small brass chain. Hang asbestos mat so that it barely touches elbow which allows it to open with the slightest pressure or back draft and prevents cool air entering chimney when there is a draft; the flapper valve, as I call it, closes tight.

We formerly used an aluminum flapper, which worked perfectly, but was somewhat noisy at times. This is very simple and inexpensive to install. Our company has been using this method for the past seven years, and has also installed same on every new installation, and has not had a single complaint of chimney trouble since it was adopted.

Yours very truly

GEORGE R. NIXON

Pittsfield, Mass.

Mounting Levels for Domestic Thermostats

Editor of AMERICAN GAS JOURNAL
New York

Dear Sir:

We read with interest the instruction sheet published on Pages 19 and 20 of your February issue regarding "Automatic Controls and their Functions."

Some years ago our company was responsible for an investigation into the performance requirements of room thermostats which resulted in a paper presented by Messrs. Persons and Delavan at the 1934 convention of American Oil Burner Association in Philadelphia. There are two ideas in this paper which should be of interest to you.

First is that a room thermostat equipped with an "anticipating heater" is usually made with a mechanical differential adjuster so that the timing of the burner on period is widely variable. This permits the use of the same instrument on practically every type of heating application from the fast acting gas fired, forced air unit to the sluggish boiler and radiator system. The heaters do not need to be removed on any type of system. It is essentially a matter of thermostat adjustment.

The other idea which did not happen to be discussed in your very interesting page, has to do with the desirable mounting level of a thermostat on a domestic application. The investigation cited above is only one of many which have been made into this phase of thermostat performance. The results of these many investigations, all tend to reach the same conclusion. First it is desirable to mount the room thermostat down in the four-foot zone rather than at high level. The need for this low mounting is only a matter of degree and varies to the point of severity in those structures where exceeding stratification of temperature is observed to occur.

The fact that only a small portion of the heating industry makes use of this phenomenon to provide better fully automatic control of room temperatures is possibly due to the use of the clock thermostat. Home owners like to have clocks located at high level where they are easily readable as a time piece. We have had available for some years the equivalent of a clock thermostat in which the clock is a separate piece of equipment connected to the thermostat by a pair of wires. This permits low mounting of the thermostat and in addition, permits the use of the clock in any other location in the house where a time piece is desirable.

Yours very truly

R. S. PENN

Goshen, Ind.

CRUSE-KEMPER COMPANY
AMBLER, PENNA.
GAS HOLDERS
Low Pressure High Pressure Inspection
Purifiers Tanks Flues
Over 40 Years of Sound
Steel Plate Construction

The "Old Timer" Comments on The Appliance Market

"Well," said the old timer, "looking at it from any angle, we're going round and round and we are in for realignment. Up go wages, up go prices, and up go demands until—today home appliances and non-essentials are bought without regard for price. We're in a sellers' market but there is an end of it coming, and that seems quite certain. One of these days we will face a buyers' market. The change from a sellers' to a buyers' market is in the offing as sure as shootin', and it means that order takers and indifferent treatment of potential buyers will be ushered out the back door.

"Just what wil this buyers' market mean? It will mean that there will be a call for the door-bell ringing salesmen of years gone by. Few of these pioneers are left. They were the fellows who knew how to get in a home without using the trick of putting a foot in the door. They were the men who sold 'new model' ranges; —who could talk the housewife into replacing the present tank water heater with a new automatic storage type. They knew the technique which sold the woman of the house on the 'tiny flame that freezes.' Yep—that's as I see it, and as many far-sighted executives sense it, there is a change coming and there is a man-sized job to be done; a real job for sales management, advertising and selling."

The old timer is "on the beam" in his thinking. There *is* a job ahead, a real job. The first thing on that agenda is the revision of policies. Men must be found, screened and trained on how to carry the gospel of GAS cooking, water heating, home heating, air-conditioning, and refrigeration into the homes to the home managers. The need is for men who can tell exactly "what it will do for you" to thousands of new home managers who have come to us as buyers since the end of World War II. They are the buyers of today and tomorrow. A new type of buyer has been created by a shifting population moving to new homes and with employment at its peak. Combined income of wages brought home by both men and women built a market that has been unique but it will fashion a different pattern as the change from a sellers' to a buyers' market prevails.

Today's buyers buy on a basis of a desire to posses; tomorrow's buyers will buy solely on the basis of necessity. This means that it will be a highly critical market. Price, quality, and need will then be the factors motivating the purchase. This "take it or leave it" salesman whom we have all encountered in the recent past, the "gravy train rider," and all such, will have to change his tactics or take his peddling to some other fields.

At the moment, as we go round and round in this *Squirrel Cage Dilemma* of economic conditions, the forces of change are silently yet definitely at work. Notice the number of self-service stores that are opening up. Notice the new fields some of the nationally known manufacturers and merchandising outlets are invading. Nationally known manufacturers are announcing some price reductions. Confidentially ask any of your merchant friends about inventory, ask if they have any "shelf-warmers," then —go and get the confidence of a gas appliance sales executive whose opinion you value and put the same query to him.

After our chat with the old-timer, we thought it might be a good idea to get the opinion of one of the boys now riding "the gravy train" to get his slant on things to come. We approached a young fellow whose commission check would look very good to the boys whose desks boast brass title plates. When asked "How's things?" this young fellow said "They're O.K. today. The only complaint I have to make is that I just don't seem to be able to get enough goods to sell. Yes—things are going well today, but, in the last couple of weeks, I've run into some things that bring up a big question;—How soon will we face a buyers' market? Another thing that I've noticed is that the customer is a bit more hesitant in making a choice these days. Then again, several prospective customers walked out lately when I told them we had no trade-in allowance."

This chat further confirmed the opinion expressed by the old-timer, namely that "the day is not too distant when salesmen will have to ring door bells to sell." This also brings to light another factor which the gas man in the past had to include in his sales plans—a trade-in allowance for old ranges, (Gas *and* electric), old refrigerators, ice boxes, and out-moded instantaneous and tank water heaters. During the past few years the trade-in policy was not needed for the simple reason that, when a housewife decided she wanted a more modern appliance and could get it, she had no trouble disposing of the old one. It amounted simply to a three line want ad and buyers flocked to her door. This, as we all know, was due to the shortage of appliances—a condition which still exists today in a measure.

However, as our talk is of "Things to come," we are inclined to believe that in future planning it will be the smart thing to give some consideration to a plan which included a trade-in allowance when and if we should be severely faced with a buyers' market. *E.R.L.*

Gas Service Co. Activities at the Turn of the Century

Michael J. Barry, in 1896, attached himself to the gas industry as a meter reader, collector and assistant bookkeeper.

He remembers when there were four bookies and each one had two collectors who also read meter skips. Mike says meters were read in four or five days a month in those days by about forty high school boys using old fashioned lanterns to light their way through the basements to the meters.

He can remember when all bills came due on the first to the tenth of the month. After that the collectors were turned loose to convince the public that the company needed revenue to manufacture gas. From 1900 to 1905 Mike was associated with Hugh McGowan, president of the company, as public relations representative.

During that time the gas range saw the light of day and Mike remembers when they sold for $9.75 to $14.75 with the deluxe model retailing at the stupendous price of $18.75, until the time came when ranges were given away to encourage the use of gas for cooking.

When natural gas came into being, Mike says all the ranges were adjusted from artificial gas to burn the new product. A flat charge of $5.00 was made to all who had ranges as a gift from the company and a bill of sale for same given to each one.

He remembers the period of 1905 to 1920 when Kansas City, Kans., was having growing pains and trying to spread that thin supply of natural gas to all consumers.—*Gas Service.*

Guild of Gas Managers

At the annual meeting of the Guild of Gas Managers of New England, held March 13th, the following were elected to office: David S. Reynolds, President; A. D. Matarese, Vice President; Gordon G. Howie, Treasurer; Lee E. Hurst, Secy.

U. S. Chamber of Commerce Issues Reports on Two Gasification Processes

Two gasification processes considered to be promising for manufacturing gas for the Fischer-Tropsch synthesis are described in a technical report now on sale by the Office of Technical Services, Department of Commerce.

The report, prepared by OTS investigators C. A. Johnson, H. F. Buschow and L. E. Carlsmith, describes and illustrates the Thyssen-Galocsy process, the Lurgi high-pressure process, and briefly reviews the Koppers carbonization-gasification process. A summary of the Fischer-Tropsch liquid fuel synthesis is included.

Lacking adequate natural resources of petroleum and nitrates, the Germans early turned to the large-scale synthesis of ammonia, liquid fuels, and alcohols, the report points out. From coal, air, and water their gigantic chemical industry supplied thousands of liquid fuels, chemicals, fertilizers, pharmaceuticals, dyes and other products. The products are all derivatives of the hydrocarbons, ammonia, and alcohols made from gaseous hydrogen, carbon monoxide, and nitrogen, or are products obtained by the hydrogenation of coal or coal tars. The important synthesis gases were all produced by the gasification of coal and coke.

The Germans used the Winkler generator, the oldest and most widely used apparatus for generating synthesis gas from oxygen, coal and steam. The estimated installed capacity of Winkler generators under German control was nearly 500 million cubic feet per day, the report states. The Thyssen-Galocsy and the Lurgi processes were less extensively used since they were first introduced during the war.

The Thyssen-Galocsy generator for making gas from coke or coal, oxygen and steam is characterized by its simplicity, and by the fact that it operates at a sufficiently high temperature to melt ash in the fuel processed. Provision is made for withdrawing the molten ash. This feature, the report states, makes it possible to use fuels which cannot be handled by most units because sintered ash clogs the generator. The process is recommended for manufacturing both synthesis gases and heating gas. To raise the calorific value of the heating gas it was planned to convert part of the product to hydrocarbons by the Fischer-Tropsch synthesis, and to blend them back into the gas. Professor Galocsy, when interviewed by the investigators, claimed that the process had a thermal efficiency of 86 percent, consumed only 0.15 volumes of oxygen per volume of purified gas, and had a capacity of 1,700 kgs. of fuel per hour per square meter of grate area.

The report contains a description of the process and a drawing of the generator as installed in the Krupp Treibstoffwerk at Wanne-Eickel.

The Lurgi high pressure gasification process converts coal directly to gas by reacting it with oxygen and steam at about 20 atmospheres pressure. The advantages of operating under pressure are the reduction of gas velocities through the unit and the simplification of removal of condensable products in the gas stream. The standard Lurgi generator is a tall cylindrical pressure vessel, water-jacketed and partly brick-lined. The fuel is introduced through a lock hopper on top of the generator. The charge is dried by hot crude gases which leave through an outlet on the side of the dome of the vessel at temperatures as low as 300 degrees C. The dried fuel is carbonized as it passes down the generator and continues to pass down through the reactor to the gasification zone at the base where it reacts with the steam and oxygen which comes up from the bottom through the hollow shaft which turns the grate. The methane formation occurs just above this zone as the gases cool. The temperature of combustion depends on the melting point of the ash, and is controlled by the amounts of steam and oxygen admitted. Ash is continuously fed to the inlet of an ash chamber below the revolving grate, where it is periodically removed. Tar and benzol in the gas are recovered by conventional methods.

The report contains a number of drawings of various important parts of the Lurgi generator, including the coal feeding mechanism, coal chamber and lock, rotating grate assembly, and ash removal assembly. Detail drawings show smaller parts.

The report contains a description of the manufacture of synthesis gas in a Koppers combination gasification and carbonization unit at the largest Fischer-Tropsch plant in Germany. The process, which is said to be very successful, consists of distilling coal briquetes followed by partially gasifying the semi-coke with hot steam lower in the retort, and finally cooling the coke in the lowest section of the vertical retort. Two drawings show the plan and side elevation of the gasification and carbonization unit.

Mimeographed copies of the 41-page report (PB-80330; Gasification of coal) sell for $1.50. Orders for the report should be addresed to the Office of Technical Service, Department of Commerce, Washington 25, D. C., and should be accompanied by check or money order, payable to the Treasurer of the United States.

Petroleum Facts and Figures

The eighth edition of Petroleum Facts and Figures has been issued by the American Petroleum Institute. It includes statistics on natural and L. P. Gases from 1940 to '45. It is a statistical study of all phases of the petroleum industry.

Published after a lapse of six years caused by the war, Petroleum Facts and Figures not only tells the story of the war in terms of oil, but of the tremendous peacetime effort of the industry to provide petroleum products to meet the greatest demand in history.

236 pages, with index, paper cover, $2. a copy.

Miss Ridder of Servel on Leave of Absence

R. J. Canniff, Advertising and Sales Promotion Manager of Servel, Inc., Evansville, Ind., has announced that Miss Clara Ridder, director of home economics for the company is taking a leave of absence effective immediately to enter graduate school at Cornell University for the spring term.

In the interim period Miss Martha Carnes will supervise the activities of this department at Servel assisted by Miss Dorothy Peters.

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in purification

GAS PURIFYING MATERIALS CO., INC.

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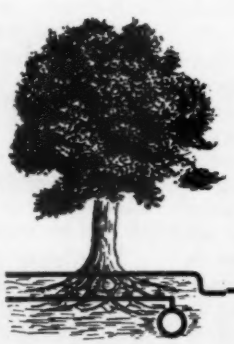

Vegetation Surveys

NOW is the Season to arrange for inspection of distribution lines to detect leakages.

Our fully trained personnel is at your service. We can submit a complete report covering locations, source of leaks, severity of the condition and vegetation affected. We can cover any section of your lines or the complete system working on a per diem basis.

Write us regarding rates and schedules.

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53 Park Place, N. Y. 7, N. Y.

A. G. A. Activities

Nationwide Gas Water Heating Campaign Launched

A nationwide campaign to expand the market for automatic gas water heaters has been launched by the Water Heating Committee of the American Gas Association. Theme of the campaign, which is planned for the period beginning April 19, 1948, is "For Hot Water Magic—Gas Has Got It."

In an effort to stimulate a more selective attitude on the part of the buyer, the campaign will emphasize adequate sizing, upgrading of quality, and the many uses for hot water in the home. It will focus the attention of plumbers, appliance dealers and utilities on the automatic water heater to an extent unmatched in recent years. A further objective is to organize effective sales forces and train salesmen for the intensive period of competition now beginning.

The current activity will be prepared by A.G.A., and will serve as a "warm-up" for an all-out water heating campaign in 1949. It will be operated by the gas utility which will support it with local advertising and sales contests.

A novel feature for utility use is a ready-made sales contest, "The Magic City Election Campaign." It contains suggestions which a local gas company can use intact or adopt as the basis for additional ideas which might be more appropriate in certain areas.

Gas company executives will receive a special folder showing ways to use the portfolio and containing a Home Service kit, miscellaneous ideas for Home Service tie-ins, radio announcements, publicity items, the "Magic City Election Contest," newspaper advertising and other sales tools.

It is planned to keep the interest in the slogan alive throughout 1948 as a forerunner to the 1949 campaign.

Lyle McDonald Elected to A.G.A. Finance Committee

Lyle McDonald, Vice-President and Comptroller of Public Service Electric and Gas Company, Newark, N. J., has been elected a member of the Finance Committee of the American Gas Association. One of the most important A.G.A. committees, this group reviews the financial requirements of the Association and makes budgetary recommendations to the Executive Board.

Engineers Promoted at Los Angeles Laboratories

Promotion of James A. Stone and Pieter Root, Jr. to Chief Inspection Engineer and Assistant Chief Testing Engineer respectively of the Pacific Coast Branch of the American Gas Association Testing Laboratories has been announced by W. H. Vogan, Supervisor at Los Angeles.

The promotion of Mr. Stone followed the resignation of C. E. Koch to become Chief Engineer of Williams Radiator Co., Glendale, California.

Zwanzig Named to A.G.A. Statistical Post

Appointment of Otto E. Zwanzig of Nutley, N. J., as Senior Statistician of the American Gas Association, effective March 1, 1948, has been announced by H. Carl Wolf, Managing Director of the Association. Mr. Zwanzig is an instructor in the Department of Public Utilities and Real Estate of the New York University School of Commerce and has had extensive public utility experience.

Otto E. Zwanzig

For several years, Mr. Zwanzig was engaged in non-utility engineering work, including naval construction and industrial plant conversions for war production. Two years ago, he became associated with Dr. H. B. Dorau on several public utility consulting projects. These included a study of the magnitude and economic implications of utility taxation and rate analyses for utility presentations before regulatory commissions.

New Testing Technique Adopted for Conversion Burner Pilots

In application of revised requirements for conversion burners now in force, a new method of testing automatic pilots used in conjunction with such burners has been developed at the American Gas Association Testing Laboratories.

Incorporated in regular testing procedures, the new technique more nearly approximates operating conditions encountered in furnaces and boilers than does a conventional test oven as formerly employed.

Under the new requirements the test period for automatic pilots is increased from 720 to 1440 hours. The new test assembly makes use of a combination of radiant and convected heat and also allows for the passage of air around the pilots as when installed in a furnace or boiler.

Under the new method pilots are installed between two sets of clay radiants. Each set is composed of a series of radiants, the individual sections of which are separately connected to the gas supply. Sensitive control of temperature is thus afforded by adjustment of the gas rate to each section.

The test method is adaptable to both vertical and horizontal type pilots. Temperatures along the horizontal direction of the testing device are controlled by the gas rate. Vertical temperatures are controlled by means of shielding.

Temperatures reproduced are those actually encountered in a furnace or boiler installation. Pilots are first installed in test units of the proper size as an integral part of the conversion burner submitted for certification. Spot temperatures on various points of the pilot are recorded. The pilots are then placed in the device for the life test and the spot temperatures reproduced. Two samples of each pilot are used. One is cycled 100 times during the first 720 hours while the other burns constantly. During the next 720 hours the first pilot burns constantly while the second pilot is cycled. Both are required to satisfactorily withstand the test conditions imposed throughout the entire period. Certification under the approval plan is for the specific conversion burner with which the pilot is furnished.

Steel Requirements of the Gas Industry

A Gas Utility Steel Requirements Committee has been organized by the American Gas Association to make a survey of the steel needs of the gas industry in connection with a program of voluntary allocation now being considered by the steel industry under Public Law 395.

Alexander Macomber, Director, Portland Gas Light Co., Boston, Mass., who served as Director of the Manufactured Gas Division of the Office of War Utilities during the war, has been appointed Chairman of the committee by Hudson W. Reed, President of the American Gas Association. Other members are Eskil I. Bjork, Vice-President, The Peoples Gas Light and Coke Co., Chicago; D. A. Hulcy, President, Lone Star Gas Co., Dallas; and H. N. Mallon, President, Dresser Industries, Inc., Cleveland.

Purpose of the A.G.A. steel committee is to assemble data on all steel requirements of the gas industry except natural gas transmission and gathering lines. A separate committee appointed by the National Petroleum Council will gather statistics on the requirements of the petroleum industry. As part of this study, a sub-committee headed by N. C. McGowen, President, United Gas Pipe Line Co., Shreveport, is collecting information on natural gas transmission and gathering lines.

The entire steel requirements of the gas utility industry as assembled by the two committees will be collated and coordinated by the Gas and Oil Division of the Department of the Interior and presented to the Steel Advisory Committee organized under the Department of Commerce.

News of the Gas Industry

Industrial Gas Shortage and Outlook in Pittsburgh Area

After providing for the needs of its domestic customers during the remainder of the winter The Peoples Natural Gas Company will temporarily be unable to supply more than 50 to 75 per cent of normal supplies to industrial customers, it was announced recently by E. M. Borger, president, The Peoples Natural Gas Company.

"Excessive demands for gas, created by a January which was more than 50 per cent colder than January last year, has resulted in reserve supplies being seriously depleted," Mr. Borger stated.

"The Peoples Natural Gas Company delivered 43,559,000,000 cubic feet of gas to its domestic, commercial and industrial customers during 1947, an increase of 4,463,000,000 cubic feet over what it was able to supply in 1946. Of the increase 98,000,000 additional cubic feet were provided to industrial plants and 4,365,000,000 more cubic feet to domestic and commercial customers.

"About 20 per cent more gas was supplied to industries in 1947 than was required in 1945, the peak year of war production, while the volume supplied to residential and commercial customers in 1947 was almost 50 per cent greater than in 1945.

"Increased residential demand on days of low temperature also accounts for the current shortages. In the winter of 1945-46 the peak domestic-commercial demand was 67,326,000 cubic feet on a day when the temperature dropped to 10 degrees. In the winter of 1946-47 the peak, with the thermometer at 2 degrees, was 116,728,000 cubic feet. Thus far in the winter of 1947-48 the peak was 134,227,000 on a nine-degree day. This increase in domestic-commercial demand is the reason restrictions were placed on conversion to natural gas house heating."

Regarding additional supplies from transmission lines from the Southwest, Mr. Borger stated that expansion of the facilities of the Tennessee Gas Transmission Company are expected to increase supplies from 115,000,000 cubic feet a day, as at present, to 200,000,000 cubic feet a day to the Consolidated Natural Gas Company system of which Peoples is a part. Increased supplies from the Texas Eastern Transmission Corporation from the present 90,000,000 cubic feet a day to 125,000,000 cubic feet by next summer and 200,000,000 cubic feet a day by Jan. 1, 1949, also are expected. "It is hoped that these additional supplies will permit more continuous industrial service during the winter of 1948-49," says Mr. Borger.

"The Peoples Natural Gas Company spent $5,400,000 in 1947 and expects to spend about $13,700,000 in 1948 and 1949 in order to handle greater supplies of gas and in the drilling of new wells in Western Pennsylvania to maintain supplies of gas from the local fields."

CONVENTION CALENDAR

April

5-7 *G.A.M.A. Annual Meeting,* Drake Hotel, Chicago.

7-9 *A.G.A. Sales Conference, Industrial & Commercial Gas Section,* Windsor, Canada.

8-10 *Mid-West Gas Association,* Annual Meeting, Nicolett Hotel, Minneapolis.

8-10 *Gas Meters Assn., Florida & Georgia,* Hollywood Beach Hotel, Hollywood, Fla.

12-13 *Florida Liquefied Petroleum Gas Assn.* Sheraton Plaza Hotel Daytona Beach, Florida.

13-15 *Southwestern Gas Measurement Short Course,* University of Oklahoma, Norman, Okla.

14-17 *National Restaurant Association Show,* Cleveland.

19-21 *Distribution-Motor Vehicle Conference, A.G.A.,* Hotel William Penn, Pittsburgh.

22-23 *Indiana Gas Association Convention,* French Lick Springs Hotel, French Lick, Indiana.

28-30 *Missouri Assn. of Public Utilities,* Annual Convention, Hotel Jefferson, St. Louis, Mo.

May

4-5 *Natural Gas Department, A.G.A.,* Rice Hotel, Houston, Texas.

18-20 *Pennsylvania Gas Association, Annual Meeting,* Galen Hall, Wernersville, Pa.

24-25 *New York—New Jersey Regional Gas Sales Conference,* Westchester Country Club, Rye, N. Y.

24-26 *Production and Chemical Conference,* Berkeley - Carteret Hotel, Asbury Park, N. J.

27-28 *Natural Gas and Petroleum Association of Canada,* General Brock Hotel, Niagara Falls, Ontario.

31-June 2. *Gas Appliances Short Course,* University of Tulsa, Oklahoma.

31-June 6. *Liquefied Petroleum Gas Assn.* Annual Convention, Sacramento, California.

June

2-4 *Annual Short Course, Gas Technology,* Texas College of Arts and Industries, Kingsville, Texas.

30-July 3 *Canadian Gas Assn.* Annual Convention, Jasper Park Lodge, Jasper, Alberta.

July

11-12 *Michigan Gas Association,* Joint Meeting with Mich. Elec. Lt. Assn., Grand Hotel, Mackinac Island, Mich.

September

14-16 *Pacific Coast Gas Assn.,* Annual Convention, Santa Cruz, Calif.

October

4-8 *American Gas Assn.* Annual Convention and GAMA Exhibit, Atlantic City, N. J.

14-15 *Texas Mid-Continent Oil and Gas Assn.,* Annual Meeting, Fort Worth.

Rocky Mountain Gas Assn. Conducts Installation Course

More than 320 gas installation and service men are weekly attending a fifteen week course in proper installation, venting and servicing. These men are taught by actual demonstration by qualified instructors in cooperation with local public schools at no cost to members. Special high altitude approval requirements for gas appliances designated for use at high altitudes have been adopted by the Approval Requirements Committee of the American Gas Association, and have been accepted by the American Standards Association as American Standard. Proper installations and venting procedure have been carefully worked out and bulletined to members. A model gas installations code and ordinance has been completed.

Office of the Rocky Mountain Gas Assn. is 327 C. A. Johnson Bldg., Denver 2.

R. Leslie Fletcher Elected Pres. Providence Gas Co.

R. Leslie Fletcher, vice president of Providence Gas Co. since 1941, was elected president at the stockholders' annual meeting on March 1st. He succeeds Frederick C. Freeman, president since 1930. Mr. Freeman was elected chairman of the board. Succeeding Mr. Fletcher as vice-president is Lauriston E. Knowlton, who has been general superintendent.

Coke and Coal Chemicals

A preprint from the Bureau of Mines "Minerals Year Book for 1946" has been issued in bulletin form. It comprises 56 pages of statistical data and general information on production of coke and chemical by-products. For sale by Supt. of Documents, U. S. Government Printing Office, Washington 25, D. C. at fifteen cents a copy.

Third Annual Short Course Texas A. & I. College June 2-4

Natural gas utilization and problems of production and transmission will be studied at the Third Annual Short Course in Gas Technology scheduled for Texas A & I College, Kingsville, June 2, 3, and 4.

Sponsored annually by the Southern Gas Association, the course this year will emphasize gas turbine design. Field trips to gas installations at the port city of Corpus Christi and in the vicinity of Kingsville are planned. Registrants also will be permitted to visit headquarters of the King Ranch and see its thoroughbred horses and Santa Gertrudes cattle.

On the administrative committee for the course are Dr. Frank H. Dotterweich, engineering division director at A & I, chairman; Robert M. Hutchison, Houston Natural Gas Corp., Houston; George E. May, New Orleans Public Service, Inc., New Orleans; W. C. McGee, Tennessee Gas and Transmission Co., Houston; C. A. McKinney, United Gas Corp., Houston; and Robert R. Suttle, managing director, Southern Gas Association, Dallas.

Additional details may be obtained from the administrative committee chairman, Dr. Frank H. Dotterweich, director of the engineering division, Texas College of Arts and Industries, or from the college news service.

41st Annual Meeting of Canadian Gas Association

This meeting to be held June 30 to July 3 at Jasper Park Lodge in the wide Athabaska Valley, encircled by mountains, has already brought a registration exceeding 200.

All those who contemplate attending are urged to make reservations without delay through Executive Secretary of the Association, George W. Allen, 7 Astley Ave., Toronto 5.

The program committee promises an unusual and attractive program and a continual round of events for all who attend.

Identification Certificates will allow for reduced train fares on the Canadian portion of tickets.

Philadelphia Gas Works Co. Receives Initial Quota of Natural Gas

On March 11th, the Federal Power Commission ordered Texas Eastern Transmission Corporation to deliver 4,300,000 cubic feet of natural gas daily to the Philadelphia Gas Works Company, Philadelphia, Pa., beginning March 25, and continuing through April 30, 1948, provided that such deliveries may be reduced or discontinued on short notice to meet any emergency in the areas now served by Texas Eastern.

In commenting on the ruling of the commission, the Philadelphia Gas Works Co. states that this allocation of natural gas will be helpful in saving oil and coke, still in short supply, and will give the company some experience in the handling of natural gas.

A.G.A. To Exhibit at Foundry Show

May 3 to 7 are the dates of the 52nd Annual Convention and Exhibit of the American Foundrymen's Association to be held in the Philadelphia Convention Hall. The Industrial Section of A. G. A. will be represented by a reception center, Booth 1022 in the Exhibition Hall. They will have as neighbors the Fisher Furnace Division of Lindberg Engineering Company, and Young Brothers. Also exhibiting will be Despatch Oven Company.

It is hoped that many industrial gas men will avail themselves of the opportunity of visiting this show and become better acquainted with the possibilities and use of gas in foundry operations.

Carl Wierum, chairman of the Metals Committee, announces that during the Foundry Show there will be a meeting of the Non-ferrous Sub-committee under the chairmanship of W. Wirt Young, Waterbury, Conn.

Texas Mid-Continent Assn. Appoints Advisory Committee

Five members of the Texas Mid-Continent Oil & Gas Association have been named to serve as the Advisory Committee from the Association to the Interstate Oil Compact Commission for 1948, Charles E. Simons, Mid-Continent vice-president and general manager, has announced.

The new committee will be composed of Curtis Condra, Stanolind Oil and Gas Company, Fort Worth, Chairman; A. E. Groff, Shell Oil Company, Houston; Marshall Newcomb, Lone Star Gas Company, Dallas; Scott Myers, Unity Oil Company, Beaumont; Jay Taylor, Baker and Taylor Drilling Company, Amarillo.

University of Tulsa Gas Appliance Short Course

The Gas Appliance Short Course Advisory Committee consisting of Dwight M. Baker, Oklahoma Natural Gas Company; L. A. Bickel, Lone Star Gas Company; D. E. Frieden, Zenith Gas System, Inc.; F. T. Gardner, University of Tulsa; C. C. McEachern, United Gas Corporation; H. N. Oldham, Southern Union Gas Company, and R .R. Suttle, Southern Gas Association, met in Dallas in December and completed plans for the school to be held at the University of Tulsa, Tulsa, Oklahoma, on May 31 and June 1 and 2. The Gas Appliances Short Course will be under the direction of F. T. Gardner, Professor of Chemistry at the College of Petroleum Sciences and Engineering of the University of Tulsa.

An intensive three-day course will again be offered with emphasis on class room instruction. General sessions will be limited to one hour each day. Course subjects will be designed to instruct gas appliance servicemen in the latest methods and techniques of servicing gas-fired appliances and equipment.

Write to the University of Tulsa for a course announcement.

Brooklyn Borough Gas Co. Gets Interim Rate Rise

The Public Service Commission of New York has authorized an interim increase in gas rates of the Brooklyn Borough Gas Company, which serves about 92,000 consumers in the southern part of Brooklyn.

The average increase under the new rate, which will be effective until Dec. 31, 1948, pending a final decision in a hearing before the commission, will be about 26 cents a month for other than house-heating consumption. The rate for heating will be increased from 6 to 7½ cents a 100 cubic feet for consumption above 6,100 cubic feet.

Rheem Manufacturing Co. Appoints Regional Sales Mgrs.

The appointments of James R. Butler as western regional manager of sales promotion and Frederick J. Blume as eastern regional sales promotion manager for Rheem Manufacturing Company have been announced by R. Louis Towne, sales promotion manager.

Mr. Butler was formerly factory representative for Westinghouse Electric Corporation.

Mr. Blume was formerly regional sales manager for Eastern Industries Corp., Inc., of New Haven, Conn.

Mr. Butler will make his headquarters in the company's San Francisco office and Mr. Blume will make his in New York.

RESTORES GAS PRESSURE CLEARS SERVICES

The Miller Rod Hose for gas services does a real job of clearing stoppages or incrustation. The speed handle drives the rod through any pipe contour.

Made of tightly spun music wire with a cutting head. 3 sizes for 1" to 2" services in 50 to 100 foot lengths.

The rod housing rotates with the rod, keeping the unused portion under control.

Loosened deposits are withdrawn by simple vacuum equipment.

This unit should be included in your service truck tools. Write for full information and names of users.

MILLER SEWER ROD COMPANY
4638 No. Central Ave., Chicago 30, Ill.

Southern California Gas Company's millionth meter installation. Gas company serviceman, K. J. P. Smith is shown installing the meter, the cover of which, for picture purposes, has been appropriately marked with the numerals "1,000,000." On the left are W. G. H. Russell and William Rivinius of the gas company's Inglewood District office.

Millionth Meter Installed for Southern Cal. Gas Co.

Installation of the millionth meter on the lines of Southern California Gas Co. of Los Angeles recently was made the occasion of a ceremony befitting the utility's rise to what is probably the largest distributor of natural gas in the world.

The millionth meter was installed at the new home of Mr. and Mrs. Howard E. Douglas, 7874 Boeing Avenue, in the Westchester District of Los Angeles.

Commenting on this milestone in the growth of the company, F. S. Wade, president of Southern California Gas Co., pointed out that the company is now serving a population of between 3,500,000 and 3,900,000 people.

"This phenomenal growth accounts, in part," Mr. Wade said, "for the fact that our domestic gas rates today are lower than in 1939. The average price of gas in Los Angeles, for household use was about 77c per thousand cubic feet for the prewar period of 1935-39, inclusive, whereas this average price for 1947 had dropped to 65c per thousand cubic feet."

Mr. Wade pointed out that despite the difficulties in securing pipe, meters and other equipment, the company has managed thus far to provide gas service in all new homes by the time the customer was able to move in and start housekeeping.

Eacker Elected A.S.A. Director

E. H. Eacker, Vice-President of the Boston Consolidated Gas Company, Boston, Mass., has been elected to the board of Directors of the American Standards Association for a three-year term beginning in January, 1948. Mr. Eacker represents the American Gas Association on the A.S.A. Board. A close relationship exists between the national standards organization and the A.G.A. in connection with the establishment and maintenance of high standards for gas appliances and equipment.

Mr. Eacker is a director of the American Gas Association.

Michigan Safety Conference Detroit, May 17-20

The 1948 Michigan Safety Conference, to be held in Detroit May 17-20, will be the largest in history, attracting more than 5,000 persons working actively in all phases of safety, according to George B. Abbott, conference president.

A ninth division, Automotive Maintenance, has been added to this year's program, bringing in a new group of more than 1,000 safety-conscious automotive maintenance workers.

Other divisions represented are: Schools and colleges, women's, traffic law enforcement, industrial, transportation, public utilities, engineering and planning, mayors and city managers.

Sponsors of the conference are the Michigan State Safety Commission, Michigan Department of Labor and Industry, Detroit Industrial Safety Council, Lansing Safety Council, Traffic Safety Association of Detroit, Greater Grand Rapids Safety Council and Kalamazoo Safety Council.

Scores of safety exhibits will be on display at the Book-Cadillac Hotel during the four-day conference.

Gas Exhibits Featured at Home Builders Exposition

A demonstration of the Servel All-Year Gas Air Conditioner was an impressive feature of the annual Convention and Exposition of the National Association of Home Builders February 22 to 26 in the Stevens Hotel, Chicago.

The demonstration was made clear by means of a plastic model of a home, illuminated to show heating and cooling cycles. Members of the staff of Servel, Inc. in attendance were Paul R. Kennedy, Assistant Sales Promotion Manager, Jules Reither, Sales Promotion; Carl F. Schroeder, W. J. Hoeing, and John Wiske, all from Air Conditioning Sales; Wilbur Cravens, Multiple Housing, and Oliver Hard, Refrigerator Sales.

All models of the Servel Gas Refrigerator were displayed, and attracted the usual close attention from home builders.

The Coleman Co., Inc., Wichita, Kans., made a complete display of gas-fired floor furnaces and water heaters for both main distributed and bottled gas. L. Songer, field representative, was in charge.

Grant Layng, manager of the apartment house and builders division of Bendix Home Appliances, Inc., South Bend, Indiana, was in charge of the display made by the company. Zoning restrictions against clothes lines in swanky residential districts, he said, are helping to boost sales of the Bendix gas-fired clothes dryer to record proportions.

Boston Consolidated Gas Elects Eacker President

Edward M. Farnsworth, president of the Boston Consolidated Gas Company since 1937, has retired from the presidency and has been elected vice-chairman of the board, it was announced March 25. He will also serve as vice-chairman of the board's executive committee.

Earl H. Eacker, vice-president, has been elected to succeed Mr. Farnsworth as president of the company.

Mr. Farnsworth came to Boston Consolidated Gas Company as vice-president and general manager in 1934. He had previously been president of the Old Colony Gas Company, a position which he still retains. He was elected president of Boston Consolidated in 1937. He is a trustee of Eastern Gas & Fuel Associates and president of the Brookline Savings Bank.

Mr. Eacker, a graduate of Massachusetts Institute of Technology, came to the utility business in 1923 as electrical superintendent of the Charlestown Gas & Electric Company, becoming general superintendent in 1926. In 1931, following acquisition of the Charlestown company by Boston Consolidated Gas Company, he was made assistant to the latter company's vice-president in charge of distribution and in January, 1937, became assistant to the general manager. He was named assistant to the president in September, 1937, and vice-president in May, 1942.

Consolidated Gas, Elec. Lt. and Power Co. of Baltimore

Stockholders Report for 1947 shows total increase in operating revenues of 11.7% over 1946. Volume of gas sold reached an all-time high with an addition of well over 6,000 residential and commercial customers. Industrial use of gas also exceeded that of the previous year.

Distribution of revenue dollar included .279 for employees, .221 for fuels, .137 for taxes and .119 for interest and dividends.

To carry the heavier loads, new gas-making equipment was installed and other improvements were made to increase the output of the Company's Spring Gardens gas plant. In addition, a 5,000,000 cubic foot gas holder and a pumping station have been constructed in Baltimore's eastern industrial area. Over 44 miles of gas distribution mains were installed.

It is doubtful that an adequate supply of natural gas will be available to Baltimore before 1950, due to scarcity of high pressure steel pipe.

New Magic Chef Line

The new Magic Chef line will consist of six basic models, ranging from the 20-inch wide apartment unit to the 39-inch wide deluxe range. With variations in such features as the automatic oven clock control, glass in oven door, and the top griddle, Magic Chef can provide a total of 28 different models.

Perhaps the most important change is in Magic Chef's appearance with its "new look" of rounded corners and flowing contours. It has a one-piece cook top combining backguard, cooking surface, and front panel.

Magic Chef Series 1300

The new one-piece top burner and tray is especially attractive with the white porcelain drip pan and the flush fitting top grates. The new burner is designed to use all types of gases. Porcelain enameled inside and out, the burner gives a sharper, cleaner flame and a better heat distribution.

Other major improvements include: automatic oven clock control that is much simpler to set and easier to use; airflow oven with rounded corners for proper heat circulation; a high-level Swing Out broiler that is smokeless, noiseless, and completely removable for easy cleaning; a new electric clock timer; chrome, hood-type flue deflector; thick blanket of "Fiberglas" insulation; a solid, recessed toe base; lock-type oven and broiler valves for safest operation; and a new, easy-glide storage drawer that can also be used as a cereal crisper.

The merchandising of the new Magic Chef is being backed up by a series of eight full-page, two-color advertisements in the leading consumer magazines, by an active trade paper campaign, and by a full scale sales promotion program.

Amarillo Tex. Gas and Oil Co. Announce New Executives

R. E. Wertz, Amarillo, Texas, has been elected chairman of the board of Amarillo Oil Company, a newly-created position. He had formerly been president of the company and of two other affiliated natural gas companies in the area.

W. W. Rusk, vice president and assistant general manager of Amarillo Oil Company, has been elected president succeeding Mr. Wertz.

H. R. Budke has been elected president of Amarillo Gas Company succeeding Mr. Wertz. He was formerly vice president and general manager.

R. F. Hinchey, vice president and general manager of West Texas Gas Company, Lubbock, has been elected president of that company, succeeding Mr. Wertz.

M. D. Snyder of New York has been named secretary of Amarillo Gas Company, Amarillo Oil Company, Clayton (New Mexico) Gas Company, Dalhart Gas Company, Panhandle Pipe Line Company, Red River Gas Company and West Texas Gas Company.

Geo. Baird of New York and W. M. Wright of Amarillo were made vice presidents of Amarillo Oil Company. T. S. Whitis of Amarillo was made vice president of Red River Gas Company.

West Texas Gas Company serves natural gas in 44 cities and towns throughout the South Plains area of west Texas. Amarillo Gas Company serves Amarillo and environs. Amarillo Oil Company and Panhandle Pipe Line Company transport natural gas from Panhandle Gas Field to Amarillo city gates. Red River Gas Company is a natural gas producing company.

Where and How to Use Aluminum Paint

How to use aluminum paints for brighter and cooler interiors—how to get best results on wet walls, on wood, metal, brick, concrete (inside and outside), on heated surfaces, on roofs, on equipment, on products—which specific types to use for specific purposes. This and much other useful data on how to get maximum protection is described in the new 24-page manual just published by the makers of "Permite," ready-mixed aluminum paints. Maintenance men or other paint users can get a copy free by writing to Aluminum Industries, Inc., 2436 Beekman Street, Cincinnati 25, Ohio.

Lincoln Electric Appoints Cable Dist. Mgr. Pittsburgh and Roscoe at Chicago

The appointment of H. E. Cable as District Manager of the Pittsburgh office has been announced by the Lincoln Electric Company. Mr. Cable came to the Lincoln Electric Company in 1943 and has been active since then as a Welding Engineer in the Pittsburgh area. He has worked successfully with the mill and mining industries in developing the use of welding in the maintenance of heavy equipment. His work on the application of the automatic "Lincolnweld" process to the rebuilding of steel mill rolls and mine locomotive wheels has been responsible for large savings in the operations in these fields.

The appointment of J. S. Roscoe as District Manager for the Chicago office has also been announced. Mr. Roscoe comes to Chicago from Pittsburgh where he has been District Manager since 1944. He has been active in the past few years in developing the use of welding in the construction of machinery and heavy mill equipment in the Pittsburgh industries.

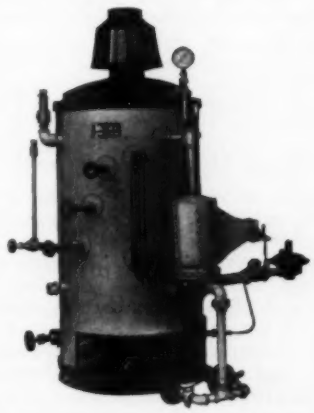
Lincoln Electric Appoints G. F. Clipsham Assistant to President

G. F. Clipsham

James F. Lincoln, President and General Manager of The Lincoln Electric Company, Cleveland, announces the appointment of G. F. Clipsham to the position of Assistant to the President. From 1935 until his recent return to the United States, Mr. Clipsham was the President of The Lincoln Electric Company, Welwyn Garden City, Herts, England. He went to England in 1935 to organize that company and during the past twelve years, through it, he has been an important influence in the development and the extension of the use of arc welding in the British Isles.

LATTNER GAS BOILERS

1 H.P. to 45 H.P.



2 H.P. Gas Fired Pressing machine boiler. 100 lbs. ASME Code.

P. M. LATTNER MFG. CO.

CEDAR RAPIDS, IOWA

Harry Jones, Joins Bryant L. P. Gas Department

The appointment of T. H. Jones as Liquefied Petroleum Gas Specialist was recently announced by J. N. Crawford, Vice-President in charge of Sales, Bryant Heater Company of Cleveland, Ohio.

T. H. Jones

Mr. Jones is a veteran of 28 years' experience in the water heater business with the former Hoffman Company, of Louisville, Kentucky. He came up through the ranks of the machine room, assembly department, drafting room, and laboratory to the position of Chief Engineer. In 1937 he became Sales Engineer, working with distributors and also directing educational programs regarding the use of liquefied-petroleum gas appliances.

The new Bryant department head has designed all types of storage, side-arm, continuous flow, and multi-coil gas water heaters, as well as electric and oil-burning storage models. With this experience, and a successful background as a sales executive, Mr. Jones is well qualified to take his place with the Bryant Heater Company. He has served on the Board of Directors of the Liquefied Petroleum Gas Association as Kentucky representative, and as advisory member on many other important national committees.

House Heating Handbook

Booklet of 46 pages discusses in language for the layman the principles of the four heating systems—Warm Air, Hot Water, Steam, and Vapor. Diagrams show principle of installation of each. Heat losses and effect of insulation on fuel consumption are tabulated and explained.

Degree-Day tables for 130 cities are included and methods for fuel conservation are discussed.

While oil as fuel is featured, the heating principles are just as applicable to gas heating. The booklet will prove to be a very serviceable Handbook for all gas house-heating salesmen.

Issued by Williams Oil-O-Matic Division, Eureka Williams Corporation, Bloomington, Ill.

Rockwell Manufacturing Company Elects New Officers

At the annual organization meeting of the Board of Directors four new officers were elected by the Rockwell Manufacturing Company of Pittsburgh, W. F. Rockwell, Jr., President, has announced.

J. E. Ashman was elected Vice President and Controller; E. W. Meyers is Secretary and M. J. Carl, Treasurer. Paul A. Wick and I. C. Rowe were elected Assistant Secretaries. All other officers of the company were re-elected.

Mr. Ashman was formerly affiliated with Burroughs Adding Machine Company and U. S. Steel Corporation. He joined Rockwell Manufacturing Company as Controller in January 1947.

M. J. Carl was with the Distributor Branches of Westinghouse Union Battery Company; then spent several years in the C.P.A. field. He joined the Pittsburgh Equitable Meter Company, now a division of Rockwell Manufacturing Company, in 1929 as Assistant Auditor. He progressed through the offices of Auditor, Controller, Assistant Secretary-Treasurer and now Treasurer.

E. W. Meyers has been associated with Colonel W. F. Rockwell, Chairman of the Board of Directors of Rockwell Manufacturing Company since 1926. Prior to the company's expansion program when it became necessary to separate the offices he was Secretary-Treasurer.

Promotional Plan for Dealers Issued by Roper Corporation

Released by Vice President E. Carl Sorby, Geo. D. Roper Corporation, Rockford, Illinois is a new "Mass Impact" promotional plan for use by Roper retailers during the month of May. Featured throughout is the extra-capacity, automatic Roper "Town and Country" gas range, built to "CP" standards.

Spearheaded by full-page, color advertising in the Saturday Evening Post, the new Roper "across-the-board" activity has all the elements required to make a major impression upon the consumer public.

Pre-view showing invitations, broadsides, folders, range display background, newspaper ad mats, display cards, radio "spot" announcements, local newspaper releases . . . these and a host of other ad helps are being made available for use at the local level.

In commenting on the new promotion, Mr. Sorby said "Consumer acceptance of the Roper 'Town and Country' gas range has dramatically increased during the short period of time this range has been available to the public at large. Our plans embrace placing considerable emphasis upon this unit, both for its actual value and for the stimulus it will provide to the general upgrading of gas ranges."

Roper Consumer Advertising, Up

A notable increase in national consumer magazine advertising on the part of the Geo. D. Roper Corporation, Rockford, Illinois has been announced by E. Carl Sorby, Vice President of the company, which has manufactured gas ranges since 1885.

Starting with March issues, the advertising pages of American Home, Better Homes and Gardens, Good Housekeeping, Holland's House Beautiful, House and Garden, McCall's, Saturday Evening Post, Small Homes Guide and Sunset will be used in reaching an estimated readership of over 55,000,000 during 1948.

Ads in What's New in Home Economics supplement the direct-consumer drive with consistent messages to home economists. In addition, a comprehensive group of "dealer" ads are scheduled to reach utility companies, appliance dealers, department and furniture stores, specialty stores and others.

As pointed out by Mr. Sorby, "This job has been done with the firm realization that aggressive selling is necessary at all times. Roper's 1948 advertising program has been designed to assist Roper retailers both today and tomorrow."

Cooper Elected Vice Pres. Glenwood Range Co.

W. L. Cooper, Kankakee, Ill., has been elected vice president and general manager of the Glenwood Range Company, Taunton, Mass., according to an announcement made by Malcolm Leach, president of Glenwood. He also has been elected a member of the Board of Directors of the company. In his capacity as General Manager he will be in charge of all phases of the company's operations.

Mr. Cooper, who was formerly vice-president and general manager of the Florence Stove Company, has a background of nearly forty years in the stove business in both sales and manufacturing divisions.

Rimbach, N. E. Representative Dole Valve Company, Chicago

Paul H. Rimbach, former sales manager of the Heating Controls division of Minneapolis-Honeywell Regulator Company, Boston, has joined the T. G. Colter organization, also of Boston, New England representatives of the Dole Valve Company, Chicago.

Mr. Rimbach will place particular stress on promotion and distribution of the new Dole Thermo-Matic Register for controlling individual room temperatures in homes heated by forced warm air heating system.

Rotameters. Schutte and Koerting Company announce a new 36-page Bulletin, 18-R, covering SK Rotameters, Specific Gravity Indicators and Flow Indicators. Text, illustrations, drawings and photographs describe the various regular and special SK Rotameters. Also described are several types of SK Flow Indicators, Specific Gravity Indicators, Flow Alarms, and related equipment.

A complete section explains their method of operation; mathematical formula for this operation is derived in another part of the Bulletin. New tables permit easy selection of correct Rotameter for a specific application, either fluid or gas. Bulletin 18-R, Schutte and Koerting Company, 12th & Thompson Streets, Philadelphia 22, Penna.

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Gas operating engineer, some experience in manufacture and distribution of Water, Coal, and Propane Gas, desires position in gas company where he can get more operating experience. Single, State Licensed, graduate engineer. Florida location desirable but would be interested anywhere on Eastern Seaboard. Address: Box 181, American Gas Journal, 53 Park Place, New York City 7.

Gasoline Absorption and stripping.— Technical Bulletin 2225, entitled "Blaw-Knox Gasoline Absorption and Stripping Plants," has been published by Blaw-Knox Construction Company Chemical Plants Division, Gas Equipment Department), Box 778, Pittsburgh 30, Penna.

The 24-page booklet describes the portable and automatic Blaw-Knox unit to control the hydrocarbon dew-point of natural gas within limits prescribed by the transmission companies. There is an explanation of the operation of the plant, together with illustrations of typical installations, key equipment and the flow cycle. A technical section reviews the design calculations, gives a summary of vapor and liquid compositions at various stages for given operating conditions and has a series of graphs on vaporization.

Propane-Butane Hose. Folder of Hewitt Rubber of Buffalo, Division of Hewitt-Robbins Inc., describes features of Monarch hose for L. P. Gases. Lengths up to 50 feet, sizes ½" to 3" I.D.

Joins Grayson Controls

Robertshaw-Fulton Controls Company—Grayson Division, Lynwood, Calif., announces the appointment of Mike F. Grace to its Sales Staff.

Mike F. Grace

A graduate of Auburn University, Auburn, Alabama, Mr. Grace has had prior experience in the gas controls field, while employed by the Robertshaw Fulton Thermostat Company located at Youngwood, Pa.

Mr. Grace served with the Amphibious Engineers, emerging from the war as a Captain.

He will work under the direction of Hal Singleton, Sales Manager, in further extending and executing Grayson Controls' program of training Utility Service men, appliance service agencies and plumbers in the adjustment and service of Grayson Controls.

Southwestern Gas Measurement Short Course

Program for this three-day course on gas measurement and regulation, April 13-15, at the University of Oklahoma, has been distributed. Sessions will be held in the College of Engineering.

General assembly meetings will be held each morning and nine afternoon periods which offer a comprehensive program, presented simultaneously in separate rooms.

Equipment exhibits include gas measurement and control products of 25 manufacturers.

Enrollment fee of $6 covers charges for attending the course and a copy of the printed proceedings.

Superior Meter Co. Expands Plant and Offers Repair Services

Following reconversion and expansion of their new meter making facilities, Superior Meter Co., Inc. announces the establishment of a separate meter repair plant, also located in Brooklyn, N. Y.

Jay M. Grady, Vice-President of the concern explained: "A recent survey revealed that gas companies will have more meters to repair than can be handled by their own shops. This condition is a direct result of the shortage of new meters during the war years, causing an accumulation of over-age meters in the field. We anticipated this situation and with these new facilities can greatly assist gas companies in the solution of that problem. The repair plant will be under the personal supervision of our superintendent Fred Gottschling who celebrates in 1948 his 30th year with the company."

Mr. Grady also announced the promotion of James H. McGourty to sales manager for the Eastern Seaboard.

Water Heating

(Continued from page 24)

taken idea that the use of an automatic gas water heater results in an exorbitant consumption of gas. Furthermore at the prevailing rates for gas this consumption likewise means only a nominal gas bill. It actually represents much greater value to the customer than many of her purchases at today's prices. This is particularly so in the case of coal and oil which in addition to being high priced are at the same time rather scarce. You all know the emphasis which is being placed on the conservation of oil for residential use these days.

Never before have we had such an opportunity to merchandise automatic gas storage water heaters. Our customers are increasing their use of hot water by installing automatic clothes and dishwashers and also through a greater appreciation of the fact that plenty of hot water provides greater health and physical comfort in the home. On the other hand, we are in the position of being better able to handle our customers' needs than our competitors by selling a heater built to American Standards, a heater which will out-perform any other fuel method, a heater correctly sized for the customer's home and a heater which provides the highest value to the customer in terms of both initial investment and operating cost.

Therefore all that is needed is our individual approach to the customer, our presentation of our product and last but not least our personal interest in the customer's hot water. With this combination, our efforts will certainly produce gratifying results.

Presented at N.E.G.A. Sales Division Meeting, Boston, Mass., Feb. 3, 1948.

New Five-Million-Foot Holder of Public Service Elec. & Gas Co.

With the opening of the main valve leading to the compressors by Thomas L. Mellick, division engineer, Gas Department, Central Division, Public Service Electric and Gas Company, on March 9th, placed in operation its new 5,000,000 cubic foot gas holder at the company's Central Works, Piscatawaytown, New Jersey. Mr. Mellick will complete fifty years' service with Public Service and predecessor companies in September.

Among those present at the ceremonies marking the addition of the new holder to the system were: George H. Blake, President; Jacob T. Barron, Vice President in charge of Combined Operations; Frederick A. Lydecker, Vice President in charge of Gas Operation; Robert H. Philipps, Jr., General Manager, Gas Department; William J. Harvey, General Superintendent of Gas Manufacture; Henry W. Nicolson, General Superintendent of Gas Distribution; William J. Lutz, Engineer of Construction; John S. Hurd, Engineer of Gas Manufacture, Central Division; Charles Beggs, Assistant Engineer of Distribution, Central Division, and Fred Demarest, Superintendent, Central Gas Works.

The five section holder, 193 feet in diameter and 240 feet high, is of the water-sealed telescopic type.

The addition of this new holder to the system more than doubles the gas storage capacity in the company's Central Division which comprises New Brunswick, Plainfield, Somerville, South Amboy and intervening territory. The additional gas storage also assures further continuity of service in an area where the consumption of gas has been increasing rapidly.

Terradell Appointed Manager, Natural Gas Bureau

R. C. Terradell, supervisor of sales training for the Southern California Gas Co., Los Angeles, was named manager of the Natural Gas Bureau, effective April 1.

He succeeded Frank Weiss, who served as Bureau manager for a number of years and retired March 31 under the company's pension and benefit plan.

R. C. Terradell

The Natural Gas Bureau is operated at Los Angeles as a joint venture by Southern California Gas Co. and Southern Counties Gas Co. to conduct gas promotional activities in which the two utilities are mutually concerned.

Terradell, who will also continue his work as sales training supervisor for Southern California Gas Co., now has direction over the bureau's program involving the preparation and management of gas exhibits, displays and other promotional work. Acting in cooperation with an advisory group of sales and advertising personnel of the two utilities, the manager of the Natural Gas Bureau prepares and presents various kinds of exhibits, public school programs, etc. Three of the major projects annually are gas appliance and kitchen exhibits at the Los Angeles Home Show, the National Orange Show in San Bernandino, Calif., and the Los Angeles County Fair at Pomona, Calif.

HARRY L. NICKERSON

Harry L. Nickerson, sixty-five, chief engineer of the Brooklyn Union Gas Company, died March 25th at the Brooklyn Hospital.

Mr. Nickerson was born in Quincy, Ill. He was graduated in 1905 from Yale College and did graduate work at the Massachusetts Institute of Technology. His entire engineering career was passed in the gas business, beginning in 1906 with the People's Gas Light and Coke Co, of Chicago. Later he worked in Boston and Everett, Mass. In 1925 he joined the Brooklyn Union Gas Company and was made chief engineer on Jan. 1, 1940. He was a member of the American Gas Association and took an active part in its technical work.

HAROLD J. LaWALL

Harold J. LaWall, Assistant to the the Vice-President of Operations, The United Gas Improvement Company, died March 10th in Bryn Mawr Hospital after a short illness. Mr. LaWall was 68, and had been an employee of The U.G.I. company for 48 years.

Mr. LaWall, born in Bloomsburg, Pa., lived at 38 Tenmore Road, Haverford, Pa., and was a brother of the late Dr. Charles H. LaWall, former President of Philadelphia College of Pharmacy and Science.

He was a member of the American Gas Association, Pennsylvania Gas Association and Edison Electric Institute.

G. J. ROBERTS

George J. Roberts, a retired engineer, died at the Richmond Hospital at the age of 84. He graduated from Stevens Institute of Technology, Hoboken, N. J. in 1884.

Early in his professional career as an engineer he became associated with the United Gas Improvement Company, of Philadelphia, where his unusual ability soon won for him recognition and led to his selection as first vice-president in charge of operations with the Public Service Corporation of New Jersey, an associate company.

His work with the Public Service Corporation of New Jersey was successful and notable, but his health ultimately broke down and he decided to retire to his Virginia farm to recuperate.

In 1932, his alma mater, the Stevens Institute of Technology, conferred on Mr. Roberts the degree of doctor of engineering with a citation which paid tribute to him as "constructor and operator of public utilities, responsible at critical times for the guidance of engineering organizations serving great communities, a man of authority, derived from knowledge which has time and time again asserted itself without show of power but with irresistible force."

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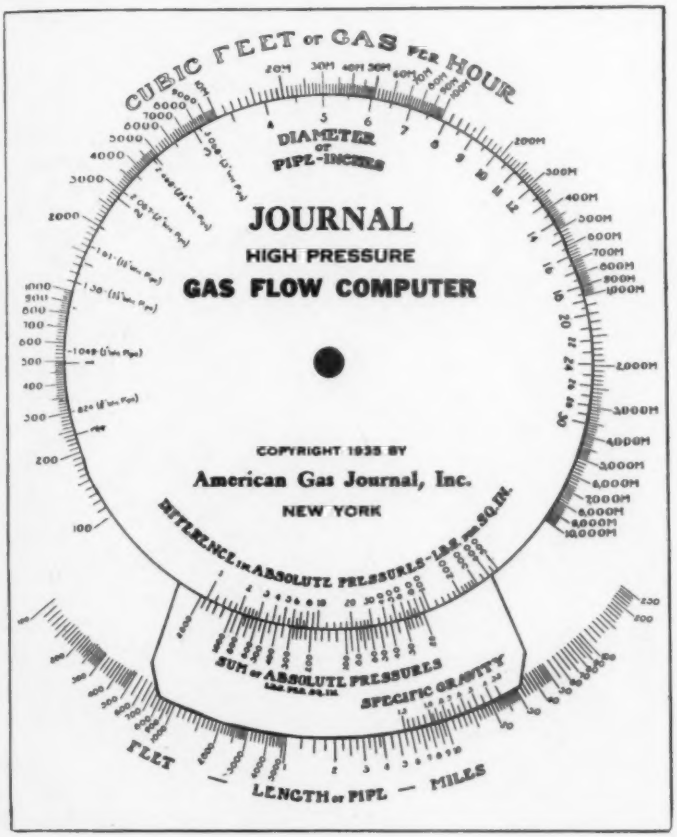

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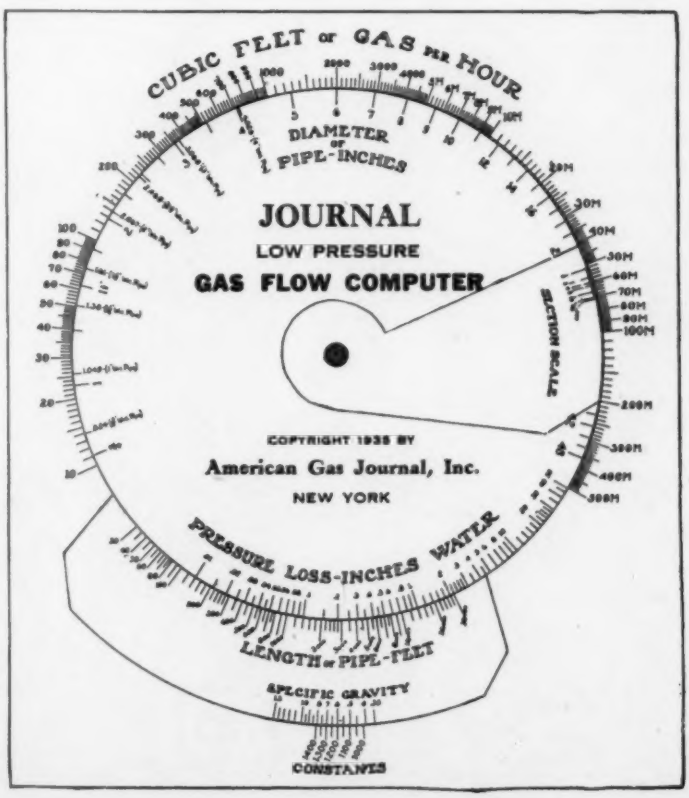

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